

# Alberta's Occupational Demand and Supply Outlook

2011-2021

Government of Alberta ■

## Disclaimer Statement

Alberta Human Services provides labour market information to assist both the government and the public in decision-making. Occupational demand and supply outlooks are affected by a variety of factors and will change over time. When making decisions based on projections, multiple sources of information should always be considered.

Work began on the Alberta Occupational Demand Outlook Model ten years ago. Currently, the model is able to predict occupational demand for 520 occupations for Alberta.

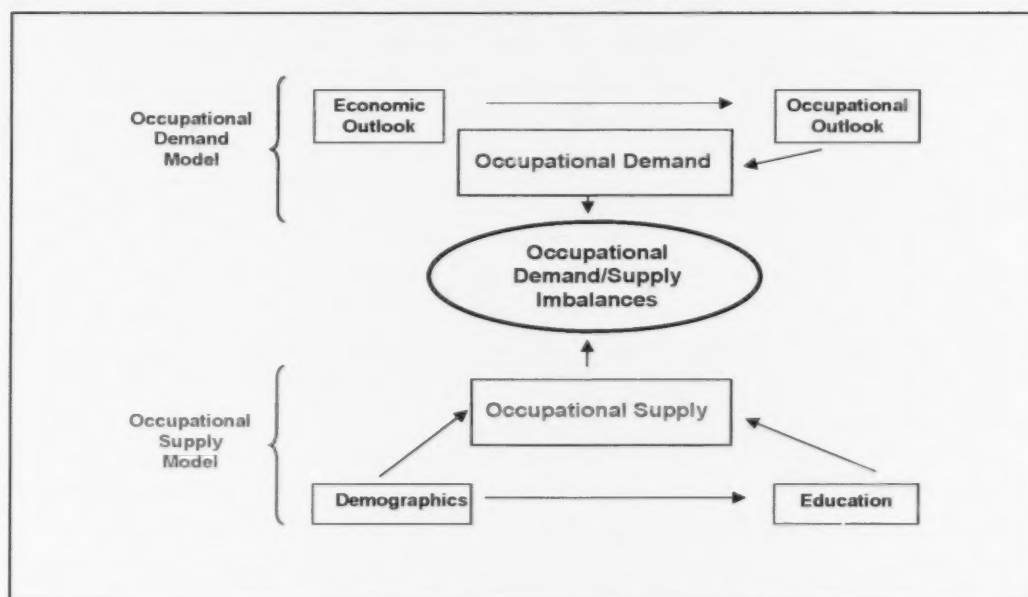
In 2003, work began on a counterpart model, the Alberta Occupational Supply Outlook Model, which helps provide insight into current labour market supply and possible supply and demand imbalances that may occur in the future.

Human Services continues to enhance this model's precision and encourages readers to provide advice and feedback on its usefulness and opportunities for improvements to [lfs.analyst@gov.ab.ca](mailto:lfs.analyst@gov.ab.ca).

## Overview

To better understand and respond to future labour market needs, Human Services has developed both the Alberta Occupational Demand and Supply Outlook Models. Figure 1 provides an overview of the two models. These models project the demand and supply for different occupations in Alberta between 2011 and 2021. By calculating imbalances between demand and supply, future occupational shortages or surpluses can be forecasted. Results from the two models help users make better decisions about developing and funding programs and policies as well as personal decisions about education, jobs and careers.

Figure 1: An Overview of the Occupational Demand and Supply Models



Each model can be broken down into sub-models, which use many data sources. The Alberta Occupational Supply Outlook Model (AOSOM) has 30 linked sub-models and over 100,000 data series. The Alberta Occupational Demand Outlook Model (AODOM) has been used for the past ten years and has proven to be reliable.

Once occupational demand and supply have been projected, the cumulative labour shortages are calculated to measure imbalances.

Over the forecast period 2011 to 2021, using both the Alberta Occupational Demand and Supply Outlook Models, potential labour imbalances for different occupations can be anticipated. It should be noted that both of these models make projections and therefore carry assumptions that may change in the future. Hence, a labour shortage or surplus may not be as severe as the models predict. For example, as occupational demand and supply conditions change, individuals may decide to enter a field of study that reflects these current conditions and more people may be attracted to the province. The results of these models are intended as indicators of where the current situation in Alberta may lead in future years.

This year's findings of the two models are provided in this report. Human Services believes that continued work on and development of the AOSOM will help to provide important information on labour market imbalances. Human Services encourages readers to provide advice and feedback on the model's usefulness, construction and results. Please see Appendices A and B for a detailed view of the model's methodology and assumptions.



## Overall Occupational Outlook

Over the next ten years, Alberta's labour market is projected to grow by approximately 607,000 workers at an annual average rate of 2.4%. A net increase of 492,000 workers is expected to join the labour force, as occupational supply increases at an annual rate of 1.9%. For the coming decade, Alberta could experience a labour shortage of approximately 114,000<sup>1</sup> workers. Table 1 shows more detailed information about the overall occupational outlook. The numbers in the table represent the number of workers in Alberta.

Table 1

Overall Occupational Demand and Supply Outlook for Alberta, 2010 - 2021												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Demand (000s)	2,016	2,071	2,123	2,176	2,232	2,294	2,360	2,415	2,472	2,522	2,568	2,623
Supply (000s)	2,157	2,196	2,241	2,288	2,337	2,392	2,449	2,496	2,543	2,580	2,611	2,650
Annual Shortage <sup>2</sup>		15,814	6,397	6,997	6,746	7,279	8,638	8,100	9,909	12,419	15,145	16,834
Cumulative Shortage		15,814	22,211	29,208	35,954	43,233	51,871	59,971	69,880	82,299	97,444	114,278

Appendices C and D list occupational demand and supply projections, along with forecasted imbalances, for 129 occupations at the 3-digit NOC-S<sup>3</sup> and 280 occupations at the 4-digit NOC-S.

<sup>1</sup> Both models carry assumptions that may change in the future, therefore, these numbers are likely to change

<sup>2</sup> Labour shortage = (Demand [year t+1] – Demand [year t]) – (Supply [year t+1] – Supply [year t])

<sup>3</sup> NOC-S: National Occupational Classification – Statistics, link:

<http://www.statcan.gc.ca/subjects-sujets/standard-norme/soc-cnp/2001/noc2001-cnp2001-menu-eng.htm>

## Appendix A

### Alberta Occupational Demand and Supply Outlook Models' Methodologies

Figure 2 provides a detailed view of how occupational demand and supply imbalances are projected.

Two main components in the Alberta Occupational Demand Outlook Model (AODOM) are the economic and occupational components. The economic component produces an outlook of Alberta's economy. Once the performance of the economy is projected, the occupational component calculates the employment that is required to maintain the projected growth.

The Alberta Occupational Supply Outlook Model (AOSOM) makes occupational supply projections with a series of changes that begin with a demographic outlook and end with occupational supply for occupations. The model has three major components: demographic, education and replacement demand. Education has a central importance in this model because of its role in training the labour force.

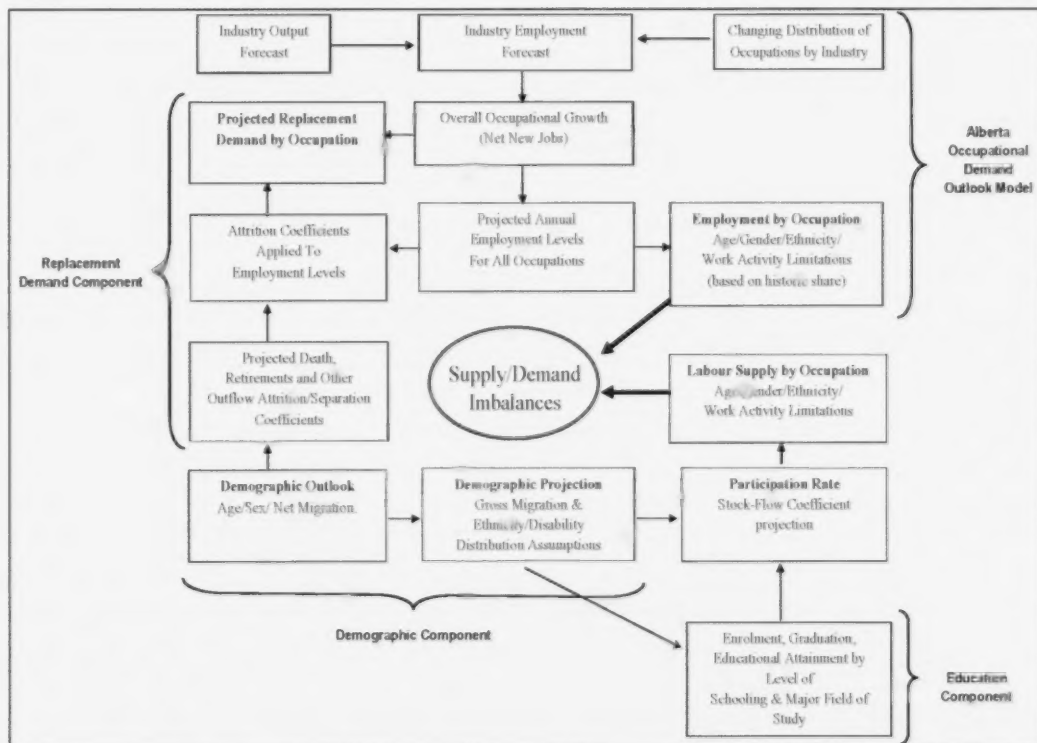


Figure 2: A Detailed View of the Alberta Occupational Supply and Demand Outlook Models

## **Appendix B**

### **Alberta Occupational Supply Outlook Model Assumptions**

As with all forecasts, a number of assumptions are used to derive the results. The model can utilize different assumptions to test various economic scenarios. The assumptions used to generate the results in Appendix C & D are set out below.

#### **Alberta's Key Economic Indicators**

- The average annual<sup>1</sup> growth rate for the Gross Domestic Product (GDP) is 3.1%.
- The average annual unemployment rate is 4.7%.
- The average annual employment growth rate is 1.6%.
- The average annual participation rate is 72.2%.

#### **Demographic Component**

- Population levels by age and gender groups are determined by a detailed population projection by single year age cohorts. Total population averages 1.6% growth over 2011 - 2021.

##### **Migration**

- The level of in-migration equals the projected net-migration plus the assumed out-migration.
- Age and gender distributions for in-migration and out-migration are determined by the historic age and gender distribution for net migration.
- Future immigrants by education type will experience similar occupational outcomes as existing residents of Alberta.

##### **Aboriginals**

- The Alberta aboriginal population's age specific birth and death rates are the same as the Canadian aboriginal population's rates.

##### **Visible Minorities**

- The visible minorities' age/gender birth and death rates are equal to the Alberta general population's birth and death rates.
- The visible minorities' less than 15 years old age groups (less than 1, 1-3, 4-9, 10-15 years) are assumed to have the same distributions as the Alberta younger age groups.

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<sup>1</sup> The average annual data is for the period 2011 - 2021

## Appendix B

### Demographic Component (Cont.)

#### Activity Limitations

- To calculate the number of people with activity limitations, a share approach by age and gender was used.<sup>2</sup>

### Education Component

#### Enrolment & Graduation

- The number of people who attend school is calculated as a share of the total number in that age or gender group. This proportion is based on historic shares.
- The secondary school enrolment rates for males and females over the forecast follow the historic trends from 2004-2005 to 2009-2010.
- Enrolment rates for post-secondary institutions over the forecast follow the historic trends from 2002 to 2009.
- Graduation rates are determined by level of schooling, field of study, age and gender. Graduation rates are calculated as a share of those who could potentially graduate and are kept constant over the forecast period.
- The overall number of university, college, vocational and trades graduates is determined by applying the graduate rate to the different age groups who are enrolled in that institution and could potentially graduate.
- Drop out rates and mature student rates are used for the different fields of study and level of schooling.
- Migration rates by educational attainment are allowed to adjust to reflect relative demand conditions in Alberta.

#### Educational Attainment

- To calculate the number of people with university, college, vocational and trades, and high school education, a stock-flow approach<sup>3</sup> is used.
- Those with less than a high school education are determined to be those not already accounted for in other educational attainment categories.

<sup>2</sup> **Share Approach:** A method to estimate the future number of people in a group of interest. The proportion of the group of interest to the general population is applied to the forecasted general population estimates to find the predicted group of interest's population. **Example:**

<b>The proportion at time t</b>	<b>Is Multiplied by the Projected Alberta Population for time t+1</b>	<b>=</b>	<b>To find the projected number of people with activities limitations for time t+1</b>
$\left[ \frac{\text{Activity Limitations}}{\text{Alberta Population}} \right]_t$	$\times \text{Alberta Population Projection}_{t+1}$		$= \text{Activity Limitation Population}_{t+1}$

<sup>3</sup> **Stock-Flow Approach:** A method in estimating the future population of people in a group of interest. To find the forecasted population, the population from the previous year is adjusted to add those expected to enter that group and subtract those that are expected to leave that group. **Example:**

Number of people with College/Trades Training    t+1	<b>=</b>	Number of people with College/Trades Training    t	<b>plus</b>	Recent Graduates of College/Trades    t+1	<b>minus</b>	People Leaving Group due to death, retirement, etc.    t+1
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## **Appendix B**

### **Education Component (Cont.)**

#### **Educational Attainment (Cont.)**

- Less than high school educational attainment is adjusted to reflect the estimated portion of mature students in post-secondary institutions that do not have a high school diploma. High school educational attainment is also adjusted to subtract recent graduates from university, college and vocational and trades.
- The overall enrolment rate for mature students is used for all age groups within the mature student category.
- To project educational attainment by field of study, the historic relative enrolment rate for each age and sex cohort is maintained over the projection period.
- The share of new graduates by field of study for each age, sex group is constant over time.
- Educational attainment is based on the new graduate forecast plus net inflows from migration less deaths.

### **Replacement Demand Component**

- Retirement rates are derived from Alberta Labour Force Survey (LFS) data, at a fairly aggregate occupational level.
- Retirement by occupation uses the age distribution in that occupation given by the census. As people working in a specific occupation enter older age cohorts a larger share will retire. Age specific retirement rates rise over time to the long-term trend toward falling median retirement ages.
- Other labour force separation rates are derived from the Alberta LFS data at the major group level of aggregation. These separation rates are kept constant over the forecast period.
- Emigration, out-migration and death rates are assumed to be the same for those employed as the general population for a particular age/gender group.

### **Occupational Component**

- Potential occupational supply is determined over the historical period by the historical distribution of occupation by educational attainment—four levels of schooling and 46 post-secondary fields of study.
- The estimated number of individuals by occupation, age and gender is scaled up to ensure that, in general, the relative balance between labour supply and demand in 2006 is maintained.
- Over the forecast period, the distribution of occupation by educational attainment will adjust to changes in relative occupation to educational demand at a pace that is consistent with differences in occupational separation rates.
- Potential occupational supply is translated into actual occupational supply by using historic participation rates by occupation. Over the forecast period, occupational participation rates adjust to reflect changes in relative occupational demand.



## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>All Occupations</b>											
Demand Projection (000s)	2,070,703	2,122,603	2,176,204	2,232,004	2,294,004	2,359,605	2,414,705	2,471,505	2,521,506	2,567,706	2,622,806
Supply Projection (000s)	2,195,912	2,241,415	2,288,019	2,337,073	2,391,794	2,448,757	2,495,757	2,542,648	2,580,023	2,611,285	2,649,551
Cumulative Shortage*	15,814	22,211	29,208	35,955	43,233	51,871	59,972	69,881	82,506	97,444	114,278
<b>A01 - Legislators and senior management</b>											
Demand Projection	10,597	10,997	11,297	11,497	11,797	12,197	12,397	12,897	13,097	13,297	13,497
Supply Projection	10,712	11,094	11,344	11,511	11,764	12,051	12,221	12,676	12,807	12,934	13,051
Cumulative Shortage*	-13	4	54	88	134	248	277	322	391	464	547
<b>A11 - Administrative services managers</b>											
Demand Projection	11,200	11,700	11,900	12,300	12,500	12,800	13,300	13,500	13,900	14,000	14,300
Supply Projection	11,412	11,865	12,044	12,365	12,547	12,810	13,234	13,348	13,651	13,645	13,826
Cumulative Shortage*	-12	36	56	135	153	190	266	352	449	556	674
<b>A12 - Managers in engineering, architecture, science and information systems</b>											
Demand Projection	9,096	9,296	9,496	9,696	9,995	10,095	10,495	10,695	10,895	11,095	11,395
Supply Projection	9,103	9,302	9,471	9,632	9,891	9,939	10,262	10,374	10,480	10,578	10,765
Cumulative Shortage*	-5	-4	27	66	107	159	236	323	417	519	632
<b>A13 - Sales, marketing and advertising managers</b>											
Demand Projection	9,902	10,202	10,502	10,702	11,002	11,402	11,702	12,003	12,203	12,503	12,803
Supply Projection	10,205	10,481	10,745	10,939	11,198	11,534	11,764	11,989	12,107	12,320	12,526
Cumulative Shortage*	-4	21	57	63	104	167	238	313	395	482	576
<b>A14 - Facility operation and maintenance managers **</b>											
Demand Projection	4,098	4,198	4,298	4,398	4,598	4,698	4,797	4,897	4,997	5,097	5,197
Supply Projection	4,386	4,453	4,512	4,567	4,675	4,748	4,801	4,849	4,882	4,894	4,882
Cumulative Shortage*	213	246	287	332	424	450	497	550	617	705	817
<b>A21 - Managers in retail trade</b>											
Demand Projection	37,800	39,000	39,900	40,900	42,400	43,800	45,000	46,300	47,200	48,500	50,000
Supply Projection	38,868	40,053	40,867	41,769	43,038	44,134	45,161	46,278	46,891	47,599	48,313
Cumulative Shortage*	32	47	133	231	462	766	939	1,122	1,409	2,001	2,787
<b>A22 - Managers in food service and accommodation</b>											
Demand Projection	20,500	21,200	22,000	22,900	23,800	24,800	25,400	26,000	26,700	27,400	28,000
Supply Projection	20,900	21,538	22,263	23,142	23,980	24,919	25,446	25,964	26,566	27,148	27,602
Cumulative Shortage*	100	162	237	258	320	381	454	537	634	752	898
<b>A30 - Managers in financial and business services</b>											
Demand Projection	8,200	8,300	8,700	8,800	9,000	9,200	9,400	9,600	9,900	9,900	10,300
Supply Projection	8,568	8,654	8,899	8,970	9,122	9,301	9,479	9,654	9,923	9,886	10,242
Cumulative Shortage*	32	46	202	230	278	300	321	347	377	414	458

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution

## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>A32 - Managers in health, education, social and community services</b>											
Demand Projection	11,102	11,402	11,802	12,102	12,402	12,902	13,202	13,502	13,803	14,103	14,403
Supply Projection	11,298	11,595	11,989	12,281	12,555	13,035	13,325	13,601	13,873	14,139	14,399
Cumulative Shortage*	3	6	13	20	46	66	76	100	129	163	203
<b>A33 - Managers in public administration **</b>											
Demand Projection	2,598	2,698	2,698	2,698	2,798	2,798	2,998	2,998	3,098	3,198	3,298
Supply Projection	2,595	2,692	2,687	2,682	2,772	2,760	2,946	2,917	2,983	3,044	3,097
Cumulative Shortage*	4	7	13	18	28	39	53	82	117	155	202
<b>A36 - Managers in other services **</b>											
Demand Projection	1,700	1,800	1,800	1,800	1,900	2,000	2,000	2,100	2,100	2,200	2,200
Supply Projection	1,863	1,951	1,948	1,942	2,043	2,142	2,140	2,244	2,239	2,291	2,271
Cumulative Shortage*	-40	-28	-25	-19	-20	-19	-17	-21	-16	32	52
<b>A37 - Managers in construction and transportation</b>											
Demand Projection	29,500	30,100	31,100	32,000	32,900	33,800	34,200	34,800	35,200	35,100	35,500
Supply Projection	30,111	30,700	31,609	32,419	33,204	33,916	34,232	34,843	35,163	34,956	35,213
Cumulative Shortage*	-11	1	91	181	296	484	568	557	638	745	887
<b>A38 - Managers in primary production (except agriculture) **</b>											
Demand Projection	4,500	4,600	4,700	4,800	4,900	5,100	5,200	5,400	5,500	5,600	5,600
Supply Projection	4,497	4,560	4,643	4,708	4,776	4,907	4,968	5,103	5,127	5,147	5,069
Cumulative Shortage*	4	40	57	92	124	193	232	297	373	453	531
<b>A39 - Managers in manufacturing and utilities</b>											
Demand Projection	6,602	6,902	7,002	7,202	7,302	7,503	7,703	7,803	8,103	8,203	8,303
Supply Projection	6,916	7,199	7,290	7,474	7,559	7,741	7,899	7,949	8,198	8,237	8,269
Cumulative Shortage*	-15	2	12	27	43	61	103	153	204	265	333
<b>B01 - Auditors, accountants and investment professionals</b>											
Demand Projection	40,098	41,098	42,198	43,198	44,198	45,298	46,298	47,398	48,397	49,297	50,397
Supply Projection	40,940	41,878	42,939	43,890	44,853	45,935	46,900	47,937	48,816	49,534	50,394
Cumulative Shortage*	259	321	359	408	446	464	498	561	682	864	1,105
<b>B02 - Human resources and business service professionals</b>											
Demand Projection	21,104	21,704	22,204	22,704	23,205	23,805	24,305	24,905	25,505	26,005	26,605
Supply Projection	21,774	22,373	22,852	23,306	23,730	24,184	24,664	25,207	25,722	26,121	26,590
Cumulative Shortage*	28	29	51	97	173	319	339	396	481	583	713
<b>B11 - Finance and insurance administrative occupations</b>											
Demand Projection	38,498	39,598	40,498	41,498	42,598	43,598	44,598	45,597	46,497	47,197	48,297
Supply Projection	39,326	40,370	41,207	42,081	43,002	43,901	44,803	45,700	46,492	47,074	48,005
Cumulative Shortage*	173	229	292	417	596	698	796	898	1,007	1,125	1,294

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution

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Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B21 - Secretaries, recorders and transcriptionists</b>											
Demand Projection	14,502	14,702	15,202	15,502	15,902	16,302	16,802	17,202	17,503	17,803	18,303
Supply Projection	15,116	15,318	15,828	16,133	16,542	16,951	17,454	17,848	18,125	18,392	18,850
Cumulative Shortage*	-15	-17	-27	-32	-40	-50	-53	-46	-23	10	51
<b>B31 - Administrative and regulatory occupations</b>											
Demand Projection	54694	56394	57593	58993	60493	62193	63693	64993	66492	67692	68992
Supply Projection	55868	57466	58573	59760	61260	62750	64121	65269	66597	67600	68664
Cumulative Shortage*	429	531	623	836	837	1,046	1,174	1,326	1,499	1,695	1,931
<b>B41 - Clerical supervisors</b>											
Demand Projection	18696	19296	19696	20295	20695	21195	21795	22195	22695	23095	23695
Supply Projection	19102	19695	20084	20672	21059	21543	22122	22484	22926	23258	23771
Cumulative Shortage*	-4	3	14	25	39	54	75	113	171	238	326
<b>B51 - Clerical occupations, general office skills</b>											
Demand Projection	31602	32202	33102	34002	34902	35802	36702	37603	38303	39103	40103
Supply Projection	32926	33520	34355	35219	36083	36896	37690	38302	38621	38763	38862
Cumulative Shortage*	575	581	646	682	718	806	911	1,199	1,581	2,239	3,140
<b>B52 - Office equipment operators</b>											
Demand Projection	7702	7902	8102	8202	8402	8702	8902	9102	9302	9502	9702
Supply Projection	8151	8258	8382	8478	8611	8768	8931	9084	9224	9355	9468
Cumulative Shortage*	50	143	219	223	291	434	470	517	577	647	734
<b>B53 - Finance and insurance clerks</b>											
Demand Projection	46100	47400	48600	49700	51000	52400	53500	54900	55800	56900	58000
Supply Projection	47764	49088	50306	51420	52732	54028	55032	56044	56417	56965	57450
Cumulative Shortage*	136	112	94	80	68	172	268	656	1,183	1,735	2,350
<b>B54 - Administrative support clerks</b>											
Demand Projection	32402	33302	34202	35002	36002	36902	37702	38702	39403	40203	41003
Supply Projection	32842	33746	34652	35458	36464	37362	38143	39080	39700	40406	41086
Cumulative Shortage*	60	56	50	44	37	40	58	122	201	296	416
<b>B55 - Library, correspondence and related information clerks</b>											
Demand Projection	16300	16800	17100	17500	18100	18600	19100	19500	19900	20400	20900
Supply Projection	17505	17924	18168	18532	19052	19420	19676	19817	19940	20150	20331
Cumulative Shortage*	95	176	232	268	348	480	724	983	1,260	1,550	1,869
<b>B56 - Mail and message distribution occupations</b>											
Demand Projection	10902	11102	11402	11502	11802	12102	12302	12602	12902	13103	13403
Supply Projection	11190	11330	11586	11682	11949	12191	12367	12639	12904	13063	13305
Cumulative Shortage*	111	171	215	219	253	311	334	363	398	439	497

\* Supply Shortage if positive  
Supply Surplus if negative

## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B57 - Recording, scheduling and distributing occupations</b>											
Demand Projection	31300	32100	32900	33700	34600	35400	36500	37400	38200	39000	39900
Supply Projection	33212	33817	34445	35054	35744	36421	37232	37784	38206	38596	39050
Cumulative Shortage*	188	383	555	746	956	1,079	1,368	1,716	2,094	2,504	2,950
<b>C01 - Physical science professionals</b>											
Demand Projection	7100	7300	7400	7500	7800	7900	8100	8400	8500	8600	8800
Supply Projection	7371	7519	7570	7632	7881	7966	8139	8406	8467	8524	8669
Cumulative Shortage*	130	182	230	268	320	334	362	394	433	476	531
<b>C02 - Life science professionals **</b>											
Demand Projection	2198	2198	2198	2298	2398	2398	2598	2598	2598	2697	2697
Supply Projection	2198	2198	2198	2298	2374	2370	2534	2498	2456	2492	2430
Cumulative Shortage*	1	1	1	1	24	29	65	100	143	206	269
<b>C03 - Civil, mechanical, electrical and chemical engineers</b>											
Demand Projection	21598	22298	22698	23198	23598	24298	24798	25397	25797	26297	26997
Supply Projection	22436	22965	23350	23736	24048	24600	24983	25446	25690	26009	26514
Cumulative Shortage*	63	234	249	363	450	599	715	853	1,009	1,189	1,385
<b>C04 - Other engineers</b>											
Demand Projection	22102	22802	23102	23702	24302	24902	25603	26203	26903	27503	28003
Supply Projection	22625	23327	23588	24134	24687	25206	25794	26260	26815	27232	27539
Cumulative Shortage*	76	74	113	167	215	296	407	542	686	869	1,063
<b>C05 - Architects, urban planners and land surveyors **</b>											
Demand Projection	4804	4804	5005	5005	5105	5305	5405	5505	5605	5705	5905
Supply Projection	4945	4937	5087	5067	5163	5312	5381	5448	5514	5576	5703
Cumulative Shortage*	58	66	116	135	140	191	222	255	289	328	400
<b>C07 - Computer and information systems professionals</b>											
Demand Projection	38996	40096	40896	41995	42895	44195	45095	46195	47095	48095	49195
Supply Projection	39581	40652	41401	42388	43231	44230	45045	46006	46761	47561	48431
Cumulative Shortage*	317	346	396	509	567	867	952	1,091	1,236	1,435	1,666
<b>C11 - Technical occupations in physical sciences</b>											
Demand Projection	7302	7502	7602	7802	8003	8103	8403	8603	8703	8903	9103
Supply Projection	7852	7952	8007	8105	8186	8281	8487	8558	8507	8542	8557
Cumulative Shortage*	250	350	394	497	616	621	714	844	995	1,160	1,345
<b>C12 - Technical occupations in life sciences **</b>											
Demand Projection	4202	4202	4302	4602	4702	4702	4803	4803	5003	5003	5103
Supply Projection	4287	4285	4373	4661	4726	4717	4798	4770	4915	4857	4893
Cumulative Shortage*	14	16	28	41	75	85	103	132	187	244	308

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution



## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>C13 - Technical occupations in civil, mechanical and industrial engineering</b>											
Demand Projection	7200	7400	7600	7800	7900	8100	8300	8500	8700	8700	8900
Supply Projection	7274	7443	7607	7778	7861	8014	8169	8310	8449	8386	8507
Cumulative Shortage*	26	57	93	123	139	186	231	290	351	414	493
<b>C14 - Technical occupations in electronics and electrical engineering</b>											
Demand Projection	14402	14902	15302	15602	16002	16503	16803	17303	17603	18003	18403
Supply Projection	14772	15218	15567	15813	16164	16607	16861	17270	17466	17755	18036
Cumulative Shortage*	29	83	135	189	238	295	341	432	535	647	766
<b>C15 - Technical occupations in architecture, drafting and surveying</b>											
Demand Projection	9502	9802	10102	10302	10502	10602	11002	11202	11402	11603	12003
Supply Projection	9928	10114	10307	10464	10610	10694	11035	11144	11248	11340	11535
Cumulative Shortage*	74	187	294	337	391	408	466	557	653	762	966
<b>C16 - Other technical inspectors and regulatory officers</b>											
Demand Projection	10,196	10,496	10,596	10,896	11,195	11,495	11,695	11,895	12,295	12,395	12,695
Supply Projection	10,571	10,857	10,950	11,232	11,493	11,767	11,931	12,087	12,440	12,485	12,721
Cumulative Shortage*	127	141	148	166	204	231	267	310	357	412	476
<b>C17 - Transportation officers and controllers **</b>											
Demand Projection	3,000	3,000	3,100	3,100	3,200	3,300	3,300	3,400	3,400	3,500	3,500
Supply Projection	3,000	3,000	3,099	3,099	3,170	3,268	3,267	3,362	3,354	3,444	3,431
Cumulative Shortage*	0	0	1	1	30	32	33	39	46	56	69
<b>C18 - Technical occupations in computer and information systems</b>											
Demand Projection	10,200	10,500	10,700	10,900	11,300	11,500	11,800	12,200	12,500	12,700	13,000
Supply Projection	10,711	10,958	11,070	11,144	11,439	11,589	11,841	12,129	12,299	12,301	12,368
Cumulative Shortage*	-11	42	130	257	361	411	459	571	701	899	1,132
<b>D01 - Physicians, dentists and veterinarians</b>											
Demand Projection	10,800	10,800	10,900	11,300	11,500	11,900	12,200	12,400	12,900	13,000	13,400
Supply Projection	10,800	10,799	10,840	11,118	11,195	11,463	11,536	11,489	11,667	11,447	11,419
Cumulative Shortage*	100	101	160	282	405	538	764	1,011	1,333	1,653	2,081
<b>D03 - Pharmacists, dietitians and nutritionists **</b>											
Demand Projection	2,298	2,398	2,398	2,398	2,598	2,698	2,698	2,798	2,798	2,998	2,998
Supply Projection	2,302	2,402	2,400	2,399	2,598	2,695	2,690	2,732	2,668	2,785	2,703
Cumulative Shortage*	-3	-2	-1	0	1	4	8	67	130	214	295
<b>D04 - Therapy and assessment professionals</b>											
Demand Projection	7,004	6,904	7,004	7,304	7,404	7,604	7,804	8,104	8,304	8,505	8,605
Supply Projection	7,089	6,972	7,057	7,340	7,420	7,569	7,718	7,910	7,939	7,906	7,763
Cumulative Shortage*	13	29	45	61	82	133	184	292	463	697	939

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>D11 - Nurse supervisors and registered nurses</b>											
Demand Projection	36,502	36,302	36,902	37,702	38,702	39,902	41,002	42,102	43,002	43,902	44,902
Supply Projection	36,796	36,592	36,925	37,533	38,313	39,027	39,541	39,983	40,164	40,301	40,462
Cumulative Shortage*	-195	-191	77	268	488	974	1,560	2,218	2,938	3,701	4,540
<b>D21 - Medical technologists and technicians (except dental health)</b>											
Demand Projection	11,302	11,302	11,402	11,902	12,102	12,602	12,802	13,102	13,302	13,802	14,103
Supply Projection	11,264	11,235	11,312	11,755	11,934	12,336	12,491	12,748	12,879	13,249	13,398
Cumulative Shortage*	37	66	89	147	167	266	311	354	422	553	703
<b>D22 - Technical occupations in dental health care **</b>											
Demand Projection	3,198	3,198	3,298	3,398	3,498	3,598	3,598	3,798	3,798	3,898	3,998
Supply Projection	3,284	3,270	3,369	3,468	3,560	3,639	3,633	3,791	3,739	3,783	3,812
Cumulative Shortage*	15	29	30	31	39	60	66	108	159	215	286
<b>D23 - Other technical occupations in health care (except dental)</b>											
Demand Projection	15,098	15,198	15,398	15,798	16,098	16,698	17,098	17,598	17,998	18,398	18,797
Supply Projection	15,457	15,508	15,687	16,024	16,256	16,870	17,250	17,598	17,802	17,979	18,144
Cumulative Shortage*	42	91	112	175	243	229	249	401	597	819	1,054
<b>D31 - Assisting occupations in support of health services</b>											
Demand Projection	33,600	33,700	34,300	35,100	36,100	37,200	38,300	39,100	40,100	41,100	41,900
Supply Projection	34,342	34,347	34,702	35,268	36,076	36,861	37,802	38,419	39,191	39,900	40,378
Cumulative Shortage*	58	153	398	632	824	1,139	1,298	1,481	1,709	2,000	2,322
<b>E01 - Judges, lawyers and Quebec notaries **</b>											
Demand Projection	7,000	7,200	7,300	7,500	7,600	7,800	8,000	8,100	8,400	8,600	8,800
Supply Projection	7,093	7,293	7,393	7,592	7,691	7,892	8,090	8,181	8,469	8,651	8,826
Cumulative Shortage*	7	7	7	8	9	8	11	19	31	49	74
<b>E02 - Psychologists, social workers, counsellors, clergy and probation officers</b>											
Demand Projection	14,004	14,204	14,604	14,904	15,504	15,904	16,405	16,805	17,305	17,605	18,005
Supply Projection	14,241	14,446	14,850	15,153	15,696	16,059	16,539	16,923	17,406	17,665	18,022
Cumulative Shortage*	61	56	52	49	106	144	164	180	197	238	281
<b>E03 - Policy and program officers, researchers and consultants</b>											
Demand Projection	23,200	24,000	24,500	25,100	25,700	26,400	27,000	27,700	28,300	28,900	29,500
Supply Projection	23,580	24,389	24,893	25,490	26,085	26,774	27,356	28,032	28,599	29,159	29,710
Cumulative Shortage*	20	12	7	10	15	26	44	68	101	141	190
<b>E11 - University professors and assistants</b>											
Demand Projection	16,198	16,998	17,598	18,198	18,798	19,397	19,997	20,397	20,797	21,197	21,497
Supply Projection	16,174	16,946	17,527	18,106	18,686	19,261	19,833	20,204	20,570	20,935	21,197
Cumulative Shortage*	25	52	71	93	113	138	166	195	228	264	301

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>E12 - College and other vocational instructors</b>											
Demand Projection	11,202	11,702	12,002	12,402	12,802	13,203	13,603	13,903	14,203	14,403	14,703
Supply Projection	11,265	11,754	12,040	12,427	12,810	13,192	13,574	13,856	14,135	14,313	14,588
Cumulative Shortage*	36	48	61	75	92	109	127	146	167	189	214
<b>E13 - Secondary and elementary school teachers and educational counsellors</b>											
Demand Projection	43,700	45,900	47,200	49,100	50,600	52,300	53,900	55,000	56,000	57,100	58,100
Supply Projection	44,995	47,157	48,396	50,134	51,562	53,191	54,659	55,607	56,421	57,315	58,072
Cumulative Shortage*	5	43	104	266	338	409	541	694	879	1,085	1,328
<b>E21 - Paralegals, social services and occupations in education and religion, n.e.c. *** (**)</b>											
Demand Projection	46,396	46,796	47,696	49,096	50,295	51,795	53,095	54,295	55,695	56,995	57,995
Supply Projection	47,616	48,012	48,864	50,223	51,350	52,729	53,904	54,943	56,171	57,276	58,055
Cumulative Shortage*	-18	-14	34	74	147	268	394	555	726	921	1,142
<b>F01 - Librarians, archivists, conservators and curators **</b>											
Demand Projection	1,100	1,100	1,100	1,100	1,200	1,200	1,200	1,300	1,400	1,500	1,500
Supply Projection	1,171	1,160	1,143	1,133	1,224	1,213	1,202	1,288	1,372	1,450	1,427
Cumulative Shortage*	29	40	57	67	76	87	98	112	128	150	173
<b>F02 - Writing, translating and public relations professionals</b>											
Demand Projection	9,800	10,000	10,400	10,600	10,800	11,200	11,400	11,800	12,000	12,300	12,500
Supply Projection	9,805	9,998	10,388	10,577	10,767	11,137	11,311	11,650	11,785	12,011	12,118
Cumulative Shortage*	-5	2	12	23	33	63	89	150	215	289	382
<b>F03 - Creative and performing artists</b>											
Demand Projection	8,502	8,802	9,102	9,402	9,703	10,103	10,403	10,703	10,803	11,103	11,403
Supply Projection	8,714	8,982	9,256	9,525	9,799	10,129	10,394	10,648	10,689	10,924	11,148
Cumulative Shortage*	-12	19	45	77	102	173	207	254	313	378	454
<b>F11 - Technical occupations in libraries, archives, museums and art galleries **</b>											
Demand Projection	2,100	2,100	2,200	2,200	2,400	2,400	2,500	2,600	2,600	2,600	2,700
Supply Projection	2,202	2,185	2,266	2,247	2,432	2,413	2,498	2,580	2,561	2,540	2,614
Cumulative Shortage*	98	115	134	153	168	187	202	220	239	260	286
<b>F12 - Photographers, graphic arts technicians and technical and co-ordinating occupations in motion pictures, broadcasting and the performing arts **</b>											
Demand Projection	3,600	3,600	3,600	3,700	4,100	4,200	4,300	4,300	4,400	4,500	4,700
Supply Projection	3,708	3,705	3,701	3,799	4,174	4,255	4,333	4,307	4,378	4,447	4,606
Cumulative Shortage*	-8	-5	-1	1	26	45	67	93	122	153	194
<b>F14 - Creative designers and craftspersons</b>											
Demand Projection	11,695	11,995	12,095	12,495	12,795	13,095	13,495	13,695	14,095	14,195	14,694
Supply Projection	11,965	12,235	12,297	12,653	12,904	13,157	13,508	13,646	13,971	13,985	14,345
Cumulative Shortage*	33	62	101	145	193	240	289	351	426	512	652

\* Supply Shortage if positive  
Supply Surplus if negative

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\*\*\* Not elsewhere classified

## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>F15 - Athletes, coaches, referees and related occupations</b>											
Demand Projection	10,200	10,400	10,700	11,000	11,300	11,700	12,000	12,400	12,700	13,000	13,200
Supply Projection	11,213	11,300	11,470	11,633	11,832	12,057	12,279	12,584	12,776	12,960	13,028
Cumulative Shortage*	-13	100	230	367	468	643	722	816	924	1,040	1,173
<b>G01 - Sales and service supervisors</b>											
Demand Projection	35,300	36,300	37,500	38,600	39,700	41,100	42,300	43,400	44,300	45,500	46,800
Supply Projection	36,067	37,008	38,155	39,209	40,268	41,519	42,681	43,718	44,525	45,602	46,705
Cumulative Shortage*	433	493	545	591	632	782	819	882	975	1,098	1,295
<b>G11 - Sales representatives, wholesale trade</b>											
Demand Projection	26,202	27,002	27,602	28,302	29,202	30,102	31,002	31,803	32,503	33,303	34,303
Supply Projection	27,303	28,060	28,588	29,213	30,041	30,875	31,692	32,369	32,913	33,547	34,357
Cumulative Shortage*	98	141	213	288	360	426	509	632	789	954	1,145
<b>G12 - Technical sales specialists, wholesale trade</b>											
Demand Projection	14,500	14,900	15,200	15,600	16,100	16,600	17,000	17,500	17,900	18,300	18,800
Supply Projection	14,886	15,275	15,564	15,928	16,380	16,862	17,241	17,713	18,065	18,405	18,829
Cumulative Shortage*	114	125	136	172	221	239	259	287	335	395	471
<b>G13 - Insurance and real estate sales occupations and buyers</b>											
Demand Projection	21,198	21,798	22,298	22,898	23,598	24,098	24,698	25,198	25,697	26,197	26,797
Supply Projection	21,392	21,992	22,491	23,085	23,778	24,269	24,858	25,334	25,797	26,256	26,800
Cumulative Shortage*	7	7	8	14	20	30	40	65	101	143	198
<b>G21 - Retail salespersons and sales clerks</b>											
Demand Projection	70,898	72,998	74,698	76,698	79,298	81,898	84,198	86,597	88,397	90,697	93,597
Supply Projection	76,318	78,085	79,621	81,346	83,237	85,138	86,970	88,789	89,847	91,328	93,284
Cumulative Shortage*	-19	314	478	753	1,462	2,162	2,629	3,209	3,952	4,770	5,714
<b>G31 - Cashiers</b>											
Demand Projection	35,500	36,600	37,600	38,700	40,100	41,500	42,600	43,900	44,800	46,000	47,500
Supply Projection	38,693	39,239	39,963	40,843	41,910	42,896	43,829	44,913	45,564	46,473	47,646
Cumulative Shortage*	8	561	837	1,058	1,390	1,805	1,971	2,187	2,436	2,727	3,054
<b>G41 - Chefs and cooks</b>											
Demand Projection	26,004	26,604	27,604	28,905	30,005	31,105	31,805	32,705	33,505	34,205	35,206
Supply Projection	28,022	28,466	29,319	30,462	31,406	32,317	32,823	33,515	34,079	34,525	35,238
Cumulative Shortage*	-20	137	283	441	596	786	981	1,188	1,424	1,679	1,966
<b>G51 - Occupations in food and beverage service</b>											
Demand Projection	32,500	33,500	34,900	36,400	37,800	39,300	40,400	41,400	42,400	43,500	44,600
Supply Projection	34,347	35,238	36,437	37,718	38,879	40,218	41,189	42,028	42,846	43,743	44,600
Cumulative Shortage*	53	162	363	583	821	982	1,112	1,272	1,454	1,657	1,900

\* Supply Shortage if positive  
Supply Surplus if negative

## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G61 - Police officers and firefighters</b>											
Demand Projection	10,696	10,896	11,196	11,496	11,696	11,995	12,395	12,695	12,895	13,195	13,595
Supply Projection	10,711	10,908	11,206	11,503	11,699	11,995	12,382	12,663	12,837	13,106	13,459
Cumulative Shortage*	-13	-11	-8	-5	-1	2	15	35	61	91	138
<b>G62 - Other occupations in protective service **</b>											
Demand Projection	6,200	6,300	6,400	6,600	6,800	7,100	7,100	7,400	7,500	7,800	7,800
Supply Projection	6,200	6,299	6,396	6,592	6,786	7,079	7,070	7,360	7,449	7,735	7,720
Cumulative Shortage*	0	1	4	8	14	21	30	40	51	65	81
<b>G63 - Security guards and related occupations</b>											
Demand Projection	7,700	7,900	8,100	8,300	8,400	8,600	8,800	9,000	9,200	9,400	9,700
Supply Projection	8,498	8,646	8,774	8,895	8,941	9,086	9,229	9,365	9,492	9,612	9,821
Cumulative Shortage*	602	654	726	805	860	914	971	1,035	1,108	1,189	1,279
<b>G71 - Occupations in travel and accommodation</b>											
Demand Projection	10,902	11,302	11,502	11,902	12,302	12,602	13,003	13,303	13,503	13,903	14,203
Supply Projection	11,208	11,589	11,748	12,124	12,501	12,774	13,158	13,431	13,597	13,958	14,205
Cumulative Shortage*	-7	12	53	77	101	128	145	171	205	243	297
<b>G72 - Tour and recreational guides and casino occupations **</b>											
Demand Projection	3,300	3,300	3,400	3,500	3,600	3,800	3,900	4,100	4,200	4,300	4,400
Supply Projection	3,397	3,393	3,493	3,591	3,689	3,888	3,984	4,179	4,271	4,362	4,449
Cumulative Shortage*	3	7	7	9	11	13	16	21	30	38	51
<b>G73 - Other occupations in travel, accommodation, amusement and recreation</b>											
Demand Projection	7,500	7,700	8,000	8,200	8,500	8,800	9,000	9,200	9,500	9,700	9,900
Supply Projection	8,005	8,168	8,416	8,578	8,823	9,080	9,264	9,442	9,720	9,893	10,062
Cumulative Shortage*	295	333	384	422	477	520	536	558	580	608	638
<b>G81 - Childcare and home support workers</b>											
Demand Projection	29,998	31,098	31,898	32,898	33,898	34,998	35,998	36,797	37,597	38,297	38,997
Supply Projection	31,574	32,688	33,488	34,472	35,446	36,505	37,441	38,143	38,825	39,396	39,950
Cumulative Shortage*	25	11	11	26	52	94	158	255	374	502	648
<b>G91 - Technical occupations in personal service</b>											
Demand Projection	10,602	10,802	11,102	11,402	11,802	12,202	12,602	13,003	13,303	13,703	14,103
Supply Projection	10,697	10,894	11,193	11,492	11,885	12,284	12,682	13,072	13,360	13,746	14,117
Cumulative Shortage*	4	7	8	9	17	17	20	30	41	55	84
<b>G92 - Other occupations in personal service</b>											
Demand Projection	12,296	12,596	12,795	13,195	13,695	13,995	14,595	14,995	15,295	15,694	16,094
Supply Projection	12,570	12,866	13,063	13,454	13,947	14,227	14,808	15,180	15,444	15,802	16,142
Cumulative Shortage*	28	32	34	44	51	71	89	117	153	194	254

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G93 - Cleaners</b>											
Demand Projection	55,000	56,500	58,000	59,500	61,100	62,900	64,300	65,900	67,300	68,600	70,300
Supply Projection	58,621	59,742	60,483	61,491	62,625	63,892	65,171	66,639	67,857	68,955	70,426
Cumulative Shortage*	379	758	1,517	2,009	2,475	3,008	3,129	3,261	3,443	3,645	3,875
<b>G94 - Butchers and bakers</b>											
Demand Projection	7,800	8,100	8,300	8,500	8,800	9,100	9,300	9,600	9,700	10,000	10,300
Supply Projection	8,066	8,371	8,569	8,767	9,066	9,358	9,552	9,846	9,932	10,219	10,503
Cumulative Shortage*	34	29	31	33	34	42	48	55	68	81	97
<b>G96 - Food counter attendants, kitchen helpers and related occupations</b>											
Demand Projection	36,596	37,596	38,996	40,595	42,095	43,795	44,895	45,995	47,095	48,195	49,494
Supply Projection	39,634	40,511	41,840	43,351	44,719	46,312	47,253	48,160	49,037	49,890	50,915
Cumulative Shortage*	-37	86	158	246	379	485	644	837	1,059	1,307	1,582
<b>G97 - Other sales and related occupations</b>											
Demand Projection	22,902	23,602	24,002	24,702	25,602	26,502	27,202	28,003	28,603	29,403	30,403
Supply Projection	25,307	25,740	25,945	26,474	27,143	27,908	28,519	29,199	29,647	30,287	31,052
Cumulative Shortage*	194	461	656	827	1,059	1,193	1,283	1,403	1,555	1,715	1,950
<b>G98 - Other elemental service occupations</b>											
Demand Projection	5,204	5,304	5,504	5,604	5,804	6,005	6,205	6,305	6,505	6,705	6,805
Supply Projection	5,623	5,683	5,847	5,923	6,106	6,288	6,466	6,538	6,710	6,879	6,941
Cumulative Shortage*	79	119	155	179	196	215	236	265	293	324	362
<b>H01 - Contractors and supervisors, trades and related workers</b>											
Demand Projection	44,600	45,400	46,900	48,100	49,500	50,900	51,400	52,600	53,300	53,500	54,300
Supply Projection	46,084	46,814	48,205	49,317	50,609	51,924	52,290	53,347	53,879	53,900	54,507
Cumulative Shortage*	116	186	295	383	491	576	710	853	1,021	1,200	1,393
<b>H02 - Supervisors, railway and motor transportation occupations **</b>											
Demand Projection	6,298	6,498	6,698	6,698	6,898	7,098	7,198	7,398	7,498	7,597	7,797
Supply Projection	6,488	6,682	6,872	6,859	7,050	7,242	7,328	7,516	7,599	7,681	7,858
Cumulative Shortage*	11	17	27	40	49	57	70	83	100	118	141
<b>H11 - Plumbers, pipefitters and gas fitters</b>											
Demand Projection	16,000	16,200	16,700	17,200	17,700	18,300	18,500	18,800	19,200	19,100	19,300
Supply Projection	17,007	17,132	17,569	18,043	18,514	19,087	19,238	19,484	19,821	19,635	19,745
Cumulative Shortage*	193	268	331	358	386	413	462	517	579	665	755
<b>H12 - Carpenters and cabinetmakers</b>											
Demand Projection	20,600	21,000	21,700	22,400	23,100	23,700	23,900	24,300	24,700	24,600	24,800
Supply Projection	21,863	22,100	22,640	23,235	23,843	24,346	24,432	24,714	24,987	24,750	24,799
Cumulative Shortage*	437	601	760	865	957	1,054	1,169	1,286	1,413	1,550	1,701

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H13 - Masonry and plastering trades</b>											
Demand Projection	13,202	13,402	14,003	14,403	14,803	15,203	15,203	15,603	15,803	15,603	15,803
Supply Projection	13,892	14,051	14,604	14,956	15,342	15,703	15,644	15,985	16,110	15,824	15,938
Cumulative Shortage*	310	350	398	445	460	499	558	617	692	778	864
<b>H14 - Other construction trades</b>											
Demand Projection	15,998	16,298	16,898	17,398	17,997	18,397	18,597	18,997	19,097	19,097	19,197
Supply Projection	17,047	17,295	17,773	18,140	18,592	18,942	19,084	19,423	19,444	19,360	19,371
Cumulative Shortage*	651	704	826	958	1,106	1,157	1,214	1,275	1,354	1,438	1,527
<b>H21 - Electrical trades and telecommunications occupations</b>											
Demand Projection	27,798	28,298	29,198	29,998	30,898	31,598	32,098	32,698	33,198	33,198	33,597
Supply Projection	28,857	29,249	30,058	30,761	31,551	32,167	32,590	33,085	33,471	33,336	33,585
Cumulative Shortage*	442	550	641	738	848	932	1,008	1,114	1,228	1,362	1,514
<b>H22 - Stationary engineers and power station and system operators **</b>											
Demand Projection	5,900	6,000	6,200	6,400	6,500	6,600	6,800	6,900	7,100	7,200	7,300
Supply Projection	5,900	5,997	6,191	6,384	6,474	6,560	6,738	6,813	6,982	7,048	7,109
Cumulative Shortage*	0	3	9	16	26	40	62	87	118	152	191
<b>H31 - Machinists and related occupations</b>											
Demand Projection	4,402	4,602	4,702	4,802	4,902	5,002	5,202	5,302	5,402	5,502	5,502
Supply Projection	4,587	4,785	4,862	4,943	5,029	5,122	5,315	5,405	5,493	5,578	5,557
Cumulative Shortage*	14	16	39	58	72	79	86	96	109	123	144
<b>H32 - Metal forming, shaping and erecting trades</b>											
Demand Projection	23,202	23,702	24,402	24,902	25,702	26,503	27,003	27,603	28,103	28,403	29,003
Supply Projection	25,421	25,841	26,397	26,735	27,376	28,027	28,342	28,744	29,025	29,091	29,454
Cumulative Shortage*	-120	-40	104	266	425	575	759	957	1,177	1,411	1,647
<b>H41 - Machinery and transportation equipment mechanics</b>											
Demand Projection	25,800	26,300	27,100	27,700	28,400	29,200	29,900	30,500	31,200	31,600	32,200
Supply Projection	26,864	27,330	28,009	28,568	29,242	29,940	30,535	31,019	31,597	31,862	32,314
Cumulative Shortage*	436	470	591	632	658	760	865	981	1,103	1,238	1,386
<b>H42 - Automotive service technicians</b>											
Demand Projection	20,802	21,302	21,902	22,502	23,202	23,902	24,603	25,303	25,903	26,503	27,203
Supply Projection	21,427	21,925	22,481	23,030	23,676	24,319	24,955	25,578	26,093	26,603	27,204
Cumulative Shortage*	75	76	120	171	225	282	347	423	509	598	698
<b>H43 - Other mechanics **</b>											
Demand Projection	2,296	2,395	2,395	2,595	2,595	2,695	2,695	2,695	2,695	2,994	2,994
Supply Projection	2,503	2,499	2,499	2,704	2,699	2,745	2,746	2,745	2,745	3,010	3,010
Cumulative Shortage*	96	200	200	194	199	253	252	253	254	287	287

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H51 - Upholsterers, tailors, shoe repairers, jewellers and related occupations **</b>											
Demand Projection	3,604	3,704	3,704	3,804	3,904	4,004	4,104	4,304	4,405	4,505	4,605
Supply Projection	3,791	3,879	3,863	3,955	4,051	4,144	4,236	4,429	4,518	4,604	4,688
Cumulative Shortage*	110	122	138	147	151	158	166	173	185	199	214
<b>H52 - Printing press operators, commercial divers and other trades and related occupations, n.e.c *** (**).</b>											
Demand Projection	3,602	3,702	3,802	3,902	4,002	4,102	4,203	4,203	4,403	4,403	4,503
Supply Projection	3,885	3,955	4,024	4,090	4,155	4,235	4,311	4,280	4,447	4,406	4,463
Cumulative Shortage*	16	46	77	111	147	167	191	222	255	295	339
<b>H53 - Other installers, repairers and servicers</b>											
Demand Projection	11,100	11,400	11,800	12,100	12,500	12,900	13,100	13,400	13,600	13,700	14,000
Supply Projection	11,595	11,866	12,235	12,508	12,890	13,261	13,433	13,701	13,859	13,911	14,157
Cumulative Shortage*	105	134	165	192	210	239	267	299	341	389	444
<b>H61 - Heavy equipment operators</b>											
Demand Projection	18,100	18,500	19,100	19,600	20,100	20,600	20,900	21,400	21,800	21,800	22,200
Supply Projection	19,775	20,020	20,467	20,842	21,186	21,519	21,632	21,942	22,139	21,923	22,100
Cumulative Shortage*	725	880	1,033	1,158	1,314	1,481	1,668	1,858	2,061	2,277	2,500
<b>H62 - Crane operators, drillers and blasters **</b>											
Demand Projection	3,096	3,196	3,495	3,495	3,595	3,695	3,695	3,795	3,895	3,895	3,895
Supply Projection	3,189	3,284	3,583	3,574	3,668	3,761	3,752	3,844	3,934	3,922	3,908
Cumulative Shortage*	8	14	14	23	29	36	45	53	63	75	88
<b>H71 - Motor vehicle and transit drivers</b>											
Demand Projection	64,398	66,098	67,598	68,498	70,098	71,898	73,398	75,098	76,398	77,797	79,197
Supply Projection	67,931	69,235	70,399	70,970	72,333	73,910	75,155	76,590	77,589	78,665	79,706
Cumulative Shortage*	568	963	1,300	1,628	1,865	2,089	2,344	2,609	2,910	3,234	3,593
<b>H72 - Train crew operating occupations **</b>											
Demand Projection	1,202	1,202	1,202	1,202	1,202	1,202	1,302	1,302	1,302	1,403	1,403
Supply Projection	1,282	1,268	1,257	1,244	1,235	1,227	1,326	1,325	1,325	1,390	1,386
Cumulative Shortage*	20	33	45	57	66	75	75	76	77	112	116
<b>H73 - Other transport equipment operators and related workers **</b>											
Demand Projection	2,299	2,399	2,399	2,499	2,499	2,698	2,698	2,798	2,798	2,798	2,898
Supply Projection	2,558	2,575	2,577	2,642	2,641	2,836	2,835	2,940	2,939	2,939	3,010
Cumulative Shortage*	-158	-76	-77	-42	-41	-36	-36	-40	-40	-40	-10
<b>H81 - Longshore workers and material handlers</b>											
Demand Projection	22,998	23,598	24,198	24,698	25,398	26,098	26,798	27,397	27,897	28,497	29,197
Supply Projection	24,206	24,715	25,257	25,668	26,300	26,914	27,528	28,032	28,427	28,913	29,484
Cumulative Shortage*	193	284	342	431	499	584	670	767	871	985	1,114

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H82 - Trades helpers and labourers</b>											
Demand Projection	25,798	26,298	27,198	27,998	28,898	29,597	29,797	30,397	30,897	30,897	31,297
Supply Projection	28,437	28,666	29,390	30,040	30,729	31,276	31,294	31,732	32,053	31,849	32,029
Cumulative Shortage*	1,962	2,233	2,408	2,559	2,769	2,923	3,105	3,266	3,446	3,649	3,869
<b>H83 - Public works and other labourers, n.e.c. ***(**)</b>											
Demand Projection	2,902	2,902	3,002	3,102	3,102	3,302	3,402	3,402	3,503	3,503	3,603
Supply Projection	3,153	3,135	3,223	3,311	3,289	3,479	3,563	3,540	3,620	3,595	3,670
Cumulative Shortage*	48	67	78	90	112	122	139	162	182	207	231
<b>I01 - Contractors, operators and supervisors in agriculture, horticulture, and aquaculture</b>											
Demand Projection	41,000	41,200	41,500	41,500	41,700	41,800	41,800	41,900	41,900	42,000	42,000
Supply Projection	41,486	41,663	41,939	41,914	42,092	42,164	42,130	42,180	42,114	42,128	42,017
Cumulative Shortage*	14	37	61	86	108	137	170	221	286	372	483
<b>I02 - Agriculture and horticulture workers</b>											
Demand Projection	8,298	8,298	8,298	8,298	8,298	8,398	8,398	8,298	8,298	8,298	8,298
Supply Projection	8,863	8,834	8,805	8,781	8,755	8,834	8,809	8,674	8,642	8,608	8,568
Cumulative Shortage*	36	65	94	118	144	165	190	225	257	291	331
<b>I11 - Supervisors, logging &amp; forestry **</b>											
Demand Projection	402	402	402	402	402	402	402	402	402	402	402
Supply Projection	406	406	406	406	406	406	406	406	406	406	406
Cumulative Shortage*	50	50	50	50	50	50	50	50	50	50	50
<b>I12 - Supervisors, mining, oil and gas</b>											
Demand Projection	14,698	15,298	15,498	15,798	16,298	16,698	17,098	17,598	17,998	18,298	18,598
Supply Projection	14,766	15,333	15,496	15,758	16,213	16,565	16,915	17,359	17,700	17,935	18,166
Cumulative Shortage*	34	66	103	141	186	234	284	340	399	463	533
<b>I13 - Underground miners, oil and gas drillers and related workers</b>											
Demand Projection	18,800	19,400	19,700	20,100	20,600	21,200	21,800	22,500	23,000	23,400	23,700
Supply Projection	19,721	20,230	20,450	20,786	21,221	21,749	22,268	22,872	23,255	23,531	23,690
Cumulative Shortage*	79	170	250	314	379	451	532	628	745	869	1,010
<b>I14 - Mine service workers and operators in oil and gas drilling</b>											
Demand Projection	6,698	6,898	7,098	7,198	7,398	7,698	7,898	8,098	8,297	8,397	8,597
Supply Projection	7,373	7,525	7,676	7,718	7,867	8,121	8,265	8,404	8,539	8,567	8,692
Cumulative Shortage*	126	174	223	281	332	378	434	494	559	631	706
<b>I21 - Primary production labourers</b>											
Demand Projection	14,800	15,300	15,600	15,900	16,300	16,600	17,100	17,500	17,800	18,100	18,600
Supply Projection	16,995	17,221	17,295	17,471	17,727	17,888	18,256	18,506	18,640	18,768	19,093
Cumulative Shortage*	205	480	705	829	973	1,112	1,244	1,394	1,560	1,732	1,907

\* Supply Shortage if positive  
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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>J01 - Supervisors, processing occupations</b>											
Demand Projection	6,502	6,902	7,102	7,202	7,302	7,502	7,602	7,702	7,902	8,102	8,202
Supply Projection	6,650	7,043	7,231	7,317	7,401	7,577	7,650	7,722	7,891	8,058	8,115
Cumulative Shortage*	51	58	70	84	100	124	151	179	210	244	286
<b>J02 - Supervisors, assembly and fabrication **</b>											
Demand Projection	3,401	3,601	3,601	3,701	3,802	3,902	4,002	4,202	4,302	4,402	4,402
Supply Projection	3,453	3,639	3,624	3,708	3,792	3,875	3,956	4,135	4,213	4,288	4,258
Cumulative Shortage*	47	61	77	92	109	126	144	166	188	213	243
<b>J11 - Central control and process operators in manufacturing and processing</b>											
Demand Projection	7,804	8,004	8,304	8,404	8,604	8,905	9,105	9,305	9,505	9,705	9,805
Supply Projection	7,788	7,971	8,253	8,334	8,514	8,790	8,964	9,137	9,308	9,477	9,547
Cumulative Shortage*	14	31	49	68	89	112	138	165	195	226	256
<b>J12 - Machine operators and related workers in metal and mineral products processing **</b>											
Demand Projection	1,103	1,103	1,103	1,103	1,103	1,203	1,303	1,303	1,303	1,303	1,303
Supply Projection	1,317	1,320	1,323	1,324	1,324	1,314	1,305	1,309	1,312	1,312	1,311
Cumulative Shortage*	61	57	54	54	54	164	273	269	266	266	267
<b>J13 - Machine operators and related workers in chemical, plastic and rubber processing **</b>											
Demand Projection	2,300	2,400	2,400	2,400	2,600	2,600	2,700	2,700	2,900	2,900	2,900
Supply Projection	2,568	2,646	2,641	2,627	2,732	2,710	2,754	2,764	2,853	2,854	2,852
Cumulative Shortage*	132	154	159	173	268	290	346	336	447	446	448
<b>J14 - Machine operators and related workers in pulp and paper production and wood processing **</b>											
Demand Projection	1,502	1,602	1,602	1,702	1,702	1,802	1,802	1,802	2,002	2,002	2,002
Supply Projection	1,507	1,606	1,620	1,709	1,717	1,793	1,796	1,801	1,977	1,977	1,977
Cumulative Shortage*	-7	-5	-19	-8	-16	9	5	0	24	24	24
<b>J16 - Machine operators and related workers in fabric, fur and leather products manufacturing **</b>											
Demand Projection	1,100	1,100	1,100	1,200	1,200	1,200	1,200	1,200	1,300	1,300	1,300
Supply Projection	1,205	1,205	1,206	1,277	1,277	1,278	1,278	1,278	1,302	1,301	1,302
Cumulative Shortage*	155	155	154	183	183	183	182	182	258	259	259
<b>J17 - Machine operators and related workers in food, beverage and tobacco processing **</b>											
Demand Projection	8,797	8,997	9,197	9,397	9,597	9,797	10,097	10,197	10,397	10,697	10,797
Supply Projection	9,047	9,210	9,370	9,529	9,690	9,842	10,089	10,131	10,269	10,498	10,523
Cumulative Shortage*	-49	-12	29	69	108	156	209	267	329	400	475
<b>J18 - Printing machine operators and related occupations **</b>											
Demand Projection	2,100	2,200	2,200	2,300	2,300	2,300	2,400	2,400	2,500	2,600	2,600
Supply Projection	2,100	2,200	2,200	2,300	2,299	2,299	2,398	2,396	2,494	2,590	2,585
Cumulative Shortage*	0	0	0	0	1	1	2	4	6	10	15

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Supply Surplus if negative

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## Appendix C

### Results of Alberta's Occupational Demand and Supply for 3-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>J19 - Machining, metalworking, woodworking and related machine operators **</b>											
Demand Projection	3,900	4,100	4,200	4,300	4,400	4,400	4,600	4,700	4,900	5,000	5,000
Supply Projection	4,107	4,288	4,352	4,423	4,496	4,467	4,637	4,703	4,865	4,924	4,882
Cumulative Shortage*	-7	12	48	77	105	133	163	197	235	276	319
<b>J21 - Mechanical, electrical and electronics assemblers **</b>											
Demand Projection	3,102	3,202	3,202	3,302	3,302	3,502	3,602	3,702	3,802	3,802	4,002
Supply Projection	3,350	3,432	3,407	3,487	3,461	3,644	3,718	3,789	3,859	3,825	3,989
Cumulative Shortage*	51	69	94	114	140	157	183	212	242	276	312
<b>J22 - Other assembly and related occupations</b>											
Demand Projection	7,800	8,100	8,400	8,400	8,700	9,000	9,100	9,300	9,400	9,600	9,700
Supply Projection	8,516	8,784	9,066	9,026	9,301	9,577	9,633	9,788	9,831	9,975	10,007
Cumulative Shortage*	84	116	134	174	199	223	267	312	369	425	493
<b>J31 - Labourers in processing, manufacturing and utilities</b>											
Demand Projection	10,797	10,997	11,397	11,497	11,797	11,997	12,397	12,697	12,897	13,197	13,597
Supply Projection	12,060	12,162	12,476	12,461	12,657	12,742	13,053	13,250	13,334	13,515	13,772
Cumulative Shortage*	-161	-63	22	137	241	356	445	548	664	783	926

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution



## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>A012 - Senior government managers and officials **</b>											
Demand Projection	1,500	1,600	1,600	1,600	1,700	1,700	1,800	1,800	1,900	1,900	1,900
Supply Projection	1,491	1,588	1,581	1,576	1,669	1,659	1,753	1,750	1,841	1,836	1,831
Cumulative Shortage*	8	11	18	23	30	41	46	49	59	63	69
<b>A013 - Senior managers - Financial, communications and other business services **</b>											
Demand Projection	3,099	3,199	3,299	3,399	3,399	3,499	3,599	3,699	3,799	3,799	3,899
Supply Projection	3,082	3,177	3,265	3,358	3,350	3,431	3,513	3,604	3,669	3,661	3,722
Cumulative Shortage*	17	22	34	41	49	69	86	95	130	138	177
<b>A016 - Senior managers - Goods production, utilities, transportation and construction **</b>											
Demand Projection	2,299	2,299	2,399	2,399	2,499	2,599	2,599	2,699	2,699	2,799	2,799
Supply Projection	2,286	2,285	2,362	2,351	2,435	2,488	2,485	2,574	2,562	2,628	2,611
Cumulative Shortage*	13	15	38	48	64	111	115	125	137	172	189
<b>A111 - Financial managers **</b>											
Demand Projection	4,400	4,600	4,700	4,800	4,900	5,000	5,200	5,300	5,400	5,500	5,600
Supply Projection	4,505	4,692	4,772	4,858	4,945	5,033	5,196	5,217	5,297	5,305	5,348
Cumulative Shortage*	-5	8	28	42	55	67	104	183	203	295	352
<b>A112 - Human resources managers**</b>											
Demand Projection	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,300	4,400
Supply Projection	3,605	3,683	3,784	3,874	3,972	4,064	4,161	4,259	4,346	4,338	4,419
Cumulative Shortage*	-5	17	16	26	28	36	39	41	54	62	81
<b>A114 - Other administrative services managers</b>											
Demand Projection	1,800	1,900	1,900	2,000	2,000	2,100	2,200	2,200	2,300	2,300	2,400
Supply Projection	1,801	1,899	1,898	1,966	1,964	2,052	2,130	2,128	2,189	2,186	2,252
Cumulative Shortage*	-1	1	2	34	36	48	70	72	111	114	148
<b>A121 - Engineering managers**</b>											
Demand Projection	2,699	2,799	2,799	2,899	2,999	2,999	3,099	3,199	3,199	3,298	3,398
Supply Projection	2,701	2,801	2,799	2,874	2,948	2,939	3,002	3,045	3,040	3,076	3,110
Cumulative Shortage*	-2	-2	0	25	51	59	97	153	159	222	289
<b>A122 - Computer and information systems managers**</b>											
Demand Projection	5,697	5,797	5,997	6,097	6,297	6,397	6,597	6,697	6,897	6,997	7,197
Supply Projection	5,702	5,801	5,972	6,060	6,247	6,304	6,466	6,539	6,651	6,717	6,872
Cumulative Shortage*	-4	-4	25	38	50	93	131	158	246	280	325
<b>A131 - Sales marketing and advertising managers</b>											
Demand Projection	9,902	10,202	10,502	10,702	11,002	11,402	11,702	12,003	12,203	12,503	12,803
Supply Projection	10,205	10,481	10,745	10,938	11,197	11,534	11,764	11,989	12,107	12,320	12,526
Cumulative Shortage*	-3	22	58	64	105	168	239	314	396	483	577

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>A141 - Facility operation and maintenance managers**</b>											
Demand Projection	4,098	4,198	4,298	4,398	4,598	4,698	4,797	4,897	4,997	5,097	5,197
Supply Projection	4,386	4,453	4,512	4,567	4,674	4,748	4,801	4,849	4,881	4,893	4,882
Cumulative Shortage*	212	245	286	331	423	449	496	549	616	704	816
<b>A211 - Retail trade managers</b>											
Demand Projection	37,800	39,000	39,900	40,900	42,400	43,800	45,000	46,300	47,200	48,500	50,000
Supply Projection	38,868	40,053	40,867	41,769	43,038	44,134	45,161	46,278	46,891	47,599	48,313
Cumulative Shortage*	32	47	133	231	462	766	939	1,122	1,409	2,001	2,787
<b>A221 - Restaurant and food service managers</b>											
Demand Projection	15,200	15,700	16,300	17,000	17,600	18,400	18,800	19,300	19,800	20,300	20,800
Supply Projection	15,554	16,027	16,594	17,290	17,865	18,644	19,010	19,463	19,918	20,361	20,787
Cumulative Shortage*	46	73	106	110	135	156	190	237	282	339	413
<b>A222 - Accommodation service managers **</b>											
Demand Projection	5,300	5,500	5,700	5,900	6,200	6,400	6,600	6,700	6,900	7,100	7,200
Supply Projection	5,346	5,511	5,669	5,852	6,115	6,275	6,436	6,501	6,648	6,786	6,815
Cumulative Shortage*	54	89	131	148	185	225	264	299	352	414	485
<b>A302 - Banking, credit and other investment managers **</b>											
Demand Projection	4,500	4,600	4,800	4,900	5,000	5,100	5,200	5,300	5,500	5,500	5,700
Supply Projection	4,683	4,777	4,893	4,966	5,045	5,135	5,225	5,312	5,485	5,461	5,643
Cumulative Shortage*	17	23	107	134	155	165	175	188	215	239	257
<b>A303 - Other business services managers **</b>											
Demand Projection	2,100	2,100	2,200	2,200	2,300	2,300	2,400	2,400	2,500	2,500	2,600
Supply Projection	2,171	2,165	2,255	2,254	2,329	2,325	2,415	2,410	2,508	2,506	2,600
Cumulative Shortage*	29	35	45	46	71	75	85	90	92	94	100
<b>A321 - Managers in health care **</b>											
Demand Projection	2,801	2,801	2,901	2,901	3,001	3,101	3,201	3,301	3,401	3,401	3,501
Supply Projection	2,900	2,900	2,998	2,997	3,081	3,176	3,271	3,358	3,442	3,431	3,508
Cumulative Shortage*	0	1	3	4	19	25	30	43	59	69	92
<b>A323 - School principals and administrators of elementary and secondary education **</b>											
Demand Projection	3,901	4,101	4,201	4,401	4,501	4,701	4,801	4,901	5,001	5,101	5,201
Supply Projection	3,900	4,099	4,192	4,387	4,482	4,669	4,766	4,860	4,954	5,039	5,130
Cumulative Shortage*	0	1	9	14	19	32	35	41	47	62	71
<b>A324 - Managers in social community and correctional services **</b>											
Demand Projection	3,601	3,701	3,801	3,901	4,001	4,101	4,201	4,301	4,401	4,501	4,601
Supply Projection	3,597	3,696	3,790	3,889	3,984	4,075	4,173	4,268	4,362	4,450	4,542
Cumulative Shortage*	3	4	11	12	17	26	28	33	39	50	59

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>A361 - Other services managers **</b>											
Demand Projection	1,700	1,800	1,800	1,800	1,900	2,000	2,000	2,100	2,100	2,200	2,200
Supply Projection	1,863	1,951	1,948	1,942	2,043	2,142	2,140	2,244	2,239	2,291	2,271
Cumulative Shortage*	-40	-28	-25	-19	-20	-19	-17	-21	-16	32	52
<b>A371 - Construction managers</b>											
Demand Projection	9,700	9,900	10,300	10,600	10,900	11,200	11,300	11,500	11,600	11,600	11,700
Supply Projection	9,909	10,106	10,460	10,758	11,019	11,271	11,350	11,555	11,634	11,606	11,671
Cumulative Shortage*	-9	-6	40	42	81	129	150	146	166	193	229
<b>A372 - Residential home builders and renovators</b>											
Demand Projection	15,600	15,900	16,400	17,000	17,500	17,900	18,100	18,400	18,600	18,500	18,700
Supply Projection	15,900	16,195	16,684	17,200	17,663	17,985	18,151	18,457	18,625	18,480	18,624
Cumulative Shortage*	0	5	16	100	137	215	249	243	275	320	376
<b>A373 - Transportation managers **</b>											
Demand Projection	4,200	4,300	4,400	4,400	4,500	4,700	4,800	4,900	5,000	5,000	5,100
Supply Projection	4,302	4,399	4,465	4,462	4,522	4,660	4,731	4,831	4,904	4,869	4,918
Cumulative Shortage*	-2	1	35	38	78	140	169	169	196	231	282
<b>A381 - Primary production managers (except agriculture) **</b>											
Demand Projection	4,500	4,600	4,700	4,800	4,900	5,100	5,200	5,400	5,500	5,600	5,600
Supply Projection	4,496	4,560	4,643	4,708	4,776	4,907	4,968	5,103	5,127	5,147	5,069
Cumulative Shortage*	4	40	57	92	124	193	232	297	373	453	531
<b>A391 - Manufacturing managers</b>											
Demand Projection	5,002	5,202	5,302	5,402	5,502	5,702	5,802	5,902	6,102	6,202	6,302
Supply Projection	5,314	5,511	5,602	5,688	5,774	5,959	6,020	6,074	6,227	6,270	6,306
Cumulative Shortage*	-12	-9	0	13	28	43	82	128	175	232	296
<b>A392 - Utilities managers **</b>											
Demand Projection	1,601	1,701	1,701	1,801	1,801	1,801	1,901	1,901	2,001	2,001	2,001
Supply Projection	1,602	1,688	1,688	1,786	1,785	1,782	1,879	1,875	1,971	1,967	1,963
Cumulative Shortage*	-2	12	13	15	16	19	22	25	30	34	38
<b>B011 - Financial auditors and accountants</b>											
Demand Projection	25,899	26,699	27,299	27,899	28,498	29,198	29,898	30,698	31,298	31,898	32,598
Supply Projection	26,296	27,038	27,610	28,151	28,729	29,398	30,077	30,804	31,325	31,742	32,256
Cumulative Shortage*	203	261	289	347	369	400	421	494	573	756	942
<b>B012 - Financial and investment analysts **</b>											
Demand Projection	2,200	2,200	2,300	2,400	2,400	2,500	2,500	2,600	2,600	2,700	2,700
Supply Projection	2,491	2,490	2,600	2,712	2,709	2,821	2,819	2,931	2,924	3,034	3,025
Cumulative Shortage*	9	10	0	-12	-9	-22	-19	-31	-24	-34	-25

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Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B013 - Securities agents, investment dealers and brokers **</b>											
Demand Projection	1,900	1,900	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,400
Supply Projection	1,981	1,981	2,073	2,073	2,171	2,171	2,270	2,270	2,359	2,359	2,443
Cumulative Shortage*	19	19	26	26	29	29	30	30	41	41	57
<b>B014 - Other financial officers</b>											
Demand Projection	10,099	10,299	10,599	10,899	11,199	11,499	11,699	11,899	12,199	12,399	12,699
Supply Projection	10,172	10,370	10,656	10,954	11,243	11,544	11,734	11,932	12,209	12,399	12,669
Cumulative Shortage*	128	130	143	145	156	156	166	167	191	200	230
<b>B021 - Specialists in human resources</b>											
Demand Projection	6,101	6,201	6,401	6,501	6,701	6,901	7,001	7,201	7,401	7,501	7,702
Supply Projection	6,408	6,501	6,684	6,756	6,904	7,005	7,088	7,248	7,389	7,421	7,531
Cumulative Shortage*	-7	0	17	46	97	196	213	253	312	380	471
<b>B022 - Professional occupations in business services to management</b>											
Demand Projection	15,003	15,503	15,803	16,203	16,503	16,903	17,303	17,703	18,104	18,504	18,904
Supply Projection	15,366	15,872	16,167	16,550	16,826	17,178	17,576	17,959	18,333	18,699	19,060
Cumulative Shortage*	37	31	36	53	77	125	128	144	171	204	244
<b>B111 - Bookkeepers</b>											
Demand Projection	24,799	25,499	26,099	26,699	27,298	27,998	28,598	29,298	29,798	30,298	30,998
Supply Projection	25,233	25,897	26,450	26,963	27,453	28,052	28,592	29,220	29,630	30,059	30,614
Cumulative Shortage*	65	101	149	236	346	447	507	578	668	739	884
<b>B112 - Loan officers</b>											
Demand Projection	6,900	7,100	7,300	7,500	7,700	7,900	8,000	8,200	8,400	8,500	8,700
Supply Projection	7,086	7,278	7,474	7,660	7,840	8,037	8,121	8,308	8,501	8,581	8,776
Cumulative Shortage*	14	22	26	40	60	63	79	92	99	119	123
<b>B113 - Insurance adjusters and claims examiners **</b>											
Demand Projection	2,400	2,500	2,500	2,600	2,700	2,700	2,800	2,900	2,900	3,000	3,000
Supply Projection	2,496	2,588	2,587	2,670	2,742	2,742	2,833	2,923	2,923	3,008	3,008
Cumulative Shortage*	4	12	13	30	58	58	67	77	77	92	92
<b>B114 - Insurance underwriters **</b>											
Demand Projection	2,200	2,300	2,300	2,400	2,500	2,500	2,600	2,600	2,700	2,700	2,800
Supply Projection	2,297	2,397	2,394	2,492	2,589	2,587	2,685	2,679	2,779	2,772	2,872
Cumulative Shortage*	3	3	6	7	11	13	15	20	21	28	28
<b>B115 - Assessors, valuers and appraisers **</b>											
Demand Projection	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,400	2,400	2,500
Supply Projection	1,993	1,990	2,082	2,077	2,160	2,159	2,248	2,245	2,333	2,329	2,410
Cumulative Shortage*	7	10	18	23	40	41	52	55	67	71	90

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B211 - Secretaries (except legal and medical)</b>											
Demand Projection	9,701	9,901	10,201	10,502	10,702	11,002	11,302	11,502	11,802	12,002	12,202
Supply Projection	10,216	10,421	10,731	11,039	11,246	11,557	11,862	12,057	12,340	12,509	12,683
Cumulative Shortage*	-15	-20	-29	-37	-44	-55	-60	-55	-38	-8	19
<b>B213 - Medical secretaries **</b>											
Demand Projection	2,600	2,600	2,700	2,700	2,800	2,900	3,000	3,100	3,100	3,200	3,300
Supply Projection	2,600	2,598	2,696	2,694	2,793	2,892	2,990	3,087	3,083	3,181	3,272
Cumulative Shortage*	0	2	4	6	7	8	11	13	18	20	29
<b>B214 - Court recorders and medical transcriptionists **</b>											
Demand Projection	1,200	1,200	1,200	1,200	1,300	1,300	1,300	1,400	1,400	1,400	1,500
Supply Projection	1,252	1,252	1,251	1,251	1,353	1,353	1,352	1,453	1,452	1,452	1,551
Cumulative Shortage*	-17	-17	-16	-15	-18	-18	-17	-18	-17	-17	-16
<b>B311 - Administrative officers</b>											
Demand Projection	28,897	29,697	30,397	31,196	31,996	32,896	33,696	34,396	35,096	35,696	36,496
Supply Projection	29,672	30,437	31,092	31,794	32,599	33,422	34,170	34,815	35,433	35,945	36,643
Cumulative Shortage*	224	259	304	402	398	474	526	581	663	751	853
<b>B312 - Executive assistants **</b>											
Demand Projection	4,599	4,799	4,899	4,999	5,099	5,299	5,399	5,499	5,699	5,799	5,899
Supply Projection	4,561	4,751	4,840	4,921	5,018	5,171	5,260	5,331	5,513	5,595	5,670
Cumulative Shortage*	39	49	59	78	81	128	140	169	186	204	229
<b>B313 - Personnel and recruitment officers **</b>											
Demand Projection	3,200	3,300	3,400	3,500	3,500	3,600	3,700	3,800	3,900	4,000	4,000
Supply Projection	3,173	3,266	3,358	3,445	3,444	3,532	3,623	3,714	3,802	3,891	3,878
Cumulative Shortage*	27	34	41	55	56	68	76	86	97	109	122
<b>B314 - Property administrators **</b>											
Demand Projection	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,300	4,399	4,500	4,599
Supply Projection	3,844	3,941	4,031	4,108	4,209	4,282	4,361	4,337	4,417	4,490	4,557
Cumulative Shortage*	56	58	68	91	91	118	138	162	182	209	243
<b>B315 - Purchasing agents and officers</b>											
Demand Projection	9,899	10,199	10,399	10,599	10,899	11,199	11,399	11,699	11,999	12,199	12,399
Supply Projection	10,195	10,457	10,641	10,804	11,106	11,376	11,559	11,839	12,112	12,280	12,441
Cumulative Shortage*	104	142	158	195	193	223	239	259	287	319	358
<b>B316 - Conference and event planners **</b>											
Demand Projection	2,700	2,800	2,800	2,900	3,000	3,100	3,200	3,300	3,300	3,400	3,500
Supply Projection	2,739	2,832	2,832	2,916	3,015	3,103	3,193	3,281	3,281	3,365	3,449
Cumulative Shortage*	61	68	68	84	85	97	107	118	118	134	151

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B411 - Supervisors, general office and administrative support clerks **</b>											
Demand Projection	3,699	3,799	3,899	3,999	4,099	4,199	4,299	4,399	4,499	4,599	4,699
Supply Projection	3,699	3,796	3,887	3,983	4,075	4,166	4,260	4,344	4,431	4,504	4,582
Cumulative Shortage*	0	3	12	16	24	33	39	55	68	95	117
<b>B412 - Supervisors, finance and insurance clerks</b>											
Demand Projection	4,799	4,899	4,999	5,199	5,299	5,399	5,599	5,699	5,799	5,899	5,999
Supply Projection	4,903	5,001	5,100	5,299	5,397	5,494	5,691	5,783	5,870	5,958	6,039
Cumulative Shortage*	-4	-2	-2	0	2	5	8	16	29	41	59
<b>B413 - Supervisors, library, correspondence and related information clerks **</b>											
Demand Projection	1,600	1,700	1,700	1,800	1,800	1,800	1,900	1,900	2,000	2,000	2,100
Supply Projection	1,674	1,777	1,776	1,876	1,874	1,873	1,971	1,969	2,059	2,055	2,140
Cumulative Shortage*	-5	-9	-8	-7	-6	-5	-2	0	10	14	28
<b>B415 - Supervisors, recording, distributing and scheduling occupations</b>											
Demand Projection	8,098	8,298	8,498	8,698	8,898	9,198	9,398	9,598	9,798	9,998	10,198
Supply Projection	8,302	8,497	8,696	8,891	9,088	9,387	9,578	9,767	9,946	10,123	10,294
Cumulative Shortage*	-4	1	2	7	10	11	20	31	52	75	104
<b>B511 - General office clerks **</b>											
Demand Projection	2,600	2,600	2,700	2,800	2,900	2,900	3,000	3,100	3,100	3,200	3,300
Supply Projection	2,691	2,688	2,772	2,864	2,956	2,936	3,014	3,060	3,016	3,017	3,000
Cumulative Shortage*	9	12	28	36	45	64	86	140	184	284	400
<b>B513 - Records management and filing clerks</b>											
Demand Projection	5,200	5,300	5,500	5,600	5,700	5,900	6,000	6,200	6,300	6,400	6,600
Supply Projection	5,652	5,748	5,950	6,047	6,145	6,321	6,409	6,515	6,544	6,529	6,510
Cumulative Shortage*	48	52	51	53	56	79	92	185	256	371	590
<b>B514 - Receptionists and switchboard operators</b>											
Demand Projection	23,802	24,302	24,902	25,602	26,302	27,002	27,702	28,302	28,902	29,502	30,202
Supply Projection	24,583	25,084	25,634	26,308	26,983	27,638	28,267	28,727	29,061	29,217	29,351
Cumulative Shortage*	519	518	568	594	619	664	735	875	1,141	1,585	2,151
<b>B522 - Data entry clerks</b>											
Demand Projection	7,102	7,302	7,502	7,602	7,802	8,002	8,202	8,402	8,602	8,802	9,002
Supply Projection	7,551	7,660	7,786	7,883	8,015	8,083	8,248	8,401	8,542	8,674	8,789
Cumulative Shortage*	50	142	216	219	287	419	454	501	560	628	714
<b>B531 - Accounting and related clerks</b>											
Demand Projection	20,400	21,000	21,500	22,000	22,500	23,200	23,700	24,300	24,800	25,200	25,800
Supply Projection	21,255	21,876	22,389	22,893	23,404	24,023	24,425	24,781	24,843	24,893	24,989
Cumulative Shortage*	45	24	11	7	-4	77	175	419	857	1,207	1,711

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B532 - Payroll clerks</b>											
Demand Projection	6,700	6,900	7,100	7,200	7,400	7,600	7,800	8,000	8,100	8,300	8,400
Supply Projection	7,085	7,289	7,499	7,603	7,811	8,012	8,219	8,409	8,488	8,667	8,745
Cumulative Shortage*	15	11	1	-3	-11	-12	-19	-9	12	33	55
<b>B533 - Customer service representatives - Financial Services</b>											
Demand Projection	12,300	12,600	12,900	13,300	13,700	14,000	14,300	14,600	14,800	15,100	15,400
Supply Projection	12,564	12,867	13,170	13,577	13,978	14,265	14,564	14,833	15,004	15,211	15,451
Cumulative Shortage*	36	33	30	23	22	35	36	67	96	189	249
<b>B534 - Banking, insurance and other financial clerks **</b>											
Demand Projection	4,900	5,100	5,200	5,300	5,500	5,600	5,700	5,900	6,000	6,100	6,200
Supply Projection	4,856	5,052	5,150	5,249	5,440	5,532	5,628	5,759	5,824	5,886	5,961
Cumulative Shortage*	44	48	50	51	60	68	72	141	176	214	239
<b>B535 - Collectors **</b>											
Demand Projection	1,800	1,800	1,900	1,900	1,900	2,000	2,000	2,100	2,100	2,200	2,200
Supply Projection	2,004	2,003	2,099	2,099	2,098	2,196	2,196	2,262	2,258	2,308	2,303
Cumulative Shortage*	-4	-3	1	1	2	4	4	38	42	92	97
<b>B541 - Administrative clerks</b>											
Demand Projection	31,002	31,802	32,602	33,402	34,302	35,202	36,002	36,902	37,602	38,402	39,203
Supply Projection	31,447	32,254	33,065	33,872	34,781	35,678	36,460	37,303	37,924	38,630	39,311
Cumulative Shortage*	55	48	37	30	22	24	42	100	179	272	392
<b>B542 - Personnel clerks **</b>											
Demand Projection	1,100	1,200	1,200	1,200	1,300	1,300	1,300	1,400	1,400	1,400	1,400
Supply Projection	1,095	1,192	1,192	1,192	1,290	1,289	1,290	1,383	1,383	1,382	1,381
Cumulative Shortage*	5	8	8	8	11	11	11	17	17	18	19
<b>B551 - Library clerks **</b>											
Demand Projection	1,000	1,100	1,100	1,100	1,200	1,200	1,300	1,300	1,300	1,400	1,400
Supply Projection	1,069	1,161	1,160	1,160	1,248	1,247	1,312	1,308	1,300	1,367	1,363
Cumulative Shortage*	5	13	14	14	26	27	62	66	74	107	111
<b>B553 - Customer service, information and related clerks</b>											
Demand Projection	14,100	14,500	14,800	15,200	15,600	16,100	16,500	16,900	17,200	17,600	18,100
Supply Projection	15,156	15,488	15,735	16,099	16,440	16,810	17,007	17,155	17,212	17,360	17,549
Cumulative Shortage*	44	112	165	201	260	390	593	845	1,088	1,340	1,651
<b>B554 - Survey interviewers and statistical clerks **</b>											
Demand Projection	1,000	1,000	1,000	1,000	1,100	1,100	1,100	1,100	1,200	1,200	1,200
Supply Projection	1,068	1,063	1,062	1,061	1,154	1,153	1,149	1,146	1,221	1,218	1,215
Cumulative Shortage*	42	47	48	49	56	57	61	64	89	92	95

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>B561 - Mail, postal and related clerks **</b>											
Demand Projection	4,601	4,701	4,801	4,901	5,001	5,101	5,201	5,401	5,501	5,601	5,701
Supply Projection	4,677	4,739	4,826	4,922	5,012	5,094	5,174	5,364	5,454	5,519	5,601
Cumulative Shortage*	24	62	75	79	89	107	127	137	147	182	200
<b>B562 - Letter carriers **</b>											
Demand Projection	3,801	3,901	4,001	4,001	4,101	4,201	4,301	4,301	4,401	4,501	4,601
Supply Projection	3,818	3,914	4,002	4,002	4,093	4,178	4,275	4,269	4,360	4,456	4,540
Cumulative Shortage*	82	87	98	98	108	123	126	132	140	145	161
<b>B563 - Couriers, messengers and door-to-door distributors **</b>											
Demand Projection	2,500	2,500	2,601	2,601	2,701	2,801	2,801	2,901	3,001	3,001	3,101
Supply Projection	2,694	2,678	2,758	2,758	2,844	2,919	2,919	3,006	3,090	3,088	3,164
Cumulative Shortage*	6	23	43	43	57	82	82	95	111	113	137
<b>B571 - Shippers and receivers</b>											
Demand Projection	16,800	17,300	17,700	18,100	18,600	19,200	19,700	20,200	20,600	21,100	21,600
Supply Projection	17,584	17,939	18,283	18,589	18,999	19,486	19,907	20,161	20,366	20,626	20,882
Cumulative Shortage*	116	261	317	411	501	614	693	939	1,134	1,374	1,618
<b>B572 - Storekeepers and parts clerks **</b>											
Demand Projection	4,500	4,600	4,700	4,800	5,000	5,100	5,300	5,400	5,500	5,700	5,800
Supply Projection	4,646	4,729	4,809	4,879	5,010	5,106	5,205	5,260	5,302	5,359	5,414
Cumulative Shortage*	54	71	91	121	190	194	295	340	398	541	586
<b>B573 - Production clerks **</b>											
Demand Projection	1,600	1,700	1,700	1,800	1,800	1,800	1,900	1,900	2,000	2,000	2,000
Supply Projection	1,699	1,783	1,780	1,856	1,853	1,852	1,919	1,912	1,978	1,975	1,971
Cumulative Shortage*	-1	15	18	42	45	46	79	86	120	123	127
<b>B574 - Purchasing and inventory clerks **</b>											
Demand Projection	2,800	2,800	2,900	3,000	3,100	3,100	3,200	3,300	3,400	3,400	3,500
Supply Projection	3,088	3,080	3,153	3,221	3,286	3,285	3,349	3,386	3,415	3,407	3,442
Cumulative Shortage*	12	20	47	79	114	115	151	214	285	293	358
<b>B575 - Dispatchers and radio operators **</b>											
Demand Projection	5,100	5,200	5,400	5,500	5,600	5,700	5,900	6,000	6,100	6,200	6,400
Supply Projection	5,366	5,457	5,591	5,679	5,766	5,863	6,023	6,099	6,181	6,267	6,379
Cumulative Shortage*	34	43	109	121	134	137	177	201	219	233	321
<b>C012 - Chemists **</b>											
Demand Projection	1,200	1,300	1,300	1,300	1,400	1,400	1,400	1,500	1,500	1,500	1,500
Supply Projection	1,328	1,414	1,412	1,410	1,490	1,490	1,490	1,584	1,581	1,578	1,577
Cumulative Shortage*	24	38	40	42	62	62	62	68	71	74	75

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>C013 - Geologists, geochemists and geophysicists **</b>											
Demand Projection	5,500	5,600	5,700	5,800	6,000	6,100	6,300	6,500	6,600	6,700	6,900
Supply Projection	5,609	5,674	5,728	5,793	5,963	6,049	6,222	6,397	6,461	6,522	6,669
Cumulative Shortage*	91	126	172	207	237	251	278	303	339	378	431
<b>C032 - Mechanical engineers **</b>											
Demand Projection	5,599	5,799	5,899	5,999	6,099	6,299	6,399	6,599	6,699	6,799	6,999
Supply Projection	5,962	6,074	6,163	6,260	6,317	6,438	6,520	6,641	6,673	6,732	6,836
Cumulative Shortage*	37	126	136	140	182	262	279	358	426	467	563
<b>C033 - Electrical and electronics engineers **</b>											
Demand Projection	5,899	6,099	6,199	6,399	6,499	6,699	6,799	6,999	7,099	7,199	7,399
Supply Projection	6,157	6,334	6,435	6,595	6,693	6,875	6,972	7,158	7,252	7,343	7,516
Cumulative Shortage*	43	66	64	105	106	124	127	141	147	156	184
<b>C034 - Chemical engineers **</b>											
Demand Projection	3,100	3,200	3,300	3,300	3,400	3,500	3,600	3,600	3,700	3,800	3,900
Supply Projection	3,171	3,267	3,363	3,362	3,439	3,533	3,627	3,627	3,696	3,783	3,874
Cumulative Shortage*	29	33	37	38	61	56	72	72	103	117	125
<b>C041 - Industrial and manufacturing engineers **</b>											
Demand Projection	1,800	1,800	1,800	1,900	1,900	2,000	2,000	2,100	2,100	2,200	2,200
Supply Projection	1,784	1,784	1,779	1,869	1,869	1,952	1,940	2,020	2,000	2,067	2,037
Cumulative Shortage*	16	16	21	31	31	48	60	80	100	134	164
<b>C045 - Petroleum engineers</b>											
Demand Projection	13,601	14,001	14,201	14,501	14,901	15,302	15,702	16,102	16,502	16,802	17,102
Supply Projection	13,849	14,252	14,432	14,700	15,070	15,425	15,761	16,080	16,401	16,598	16,799
Cumulative Shortage*	53	49	69	102	132	177	240	321	400	503	603
<b>C048 - Other professional engineers n.e.c***(**)</b>											
Demand Projection	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	5,001	5,101	5,201
Supply Projection	4,284	4,385	4,481	4,572	4,664	4,752	4,834	4,913	5,097	5,168	5,235
Cumulative Shortage*	16	16	20	29	36	48	66	87	103	132	165
<b>C054 - Land surveyors **</b>											
Demand Projection	1,902	1,902	2,002	2,002	2,002	2,102	2,102	2,202	2,202	2,302	2,302
Supply Projection	1,989	1,988	2,041	2,024	2,019	2,087	2,059	2,131	2,100	2,167	2,136
Cumulative Shortage*	13	13	61	78	83	115	143	171	202	235	267
<b>C071 - Information systems analysts and consultants</b>											
Demand Projection	18,398	18,898	19,298	19,798	20,198	20,798	21,298	21,798	22,198	22,698	23,197
Supply Projection	18,823	19,308	19,667	20,099	20,454	20,829	21,256	21,668	21,974	22,299	22,642
Cumulative Shortage*	175	190	231	298	343	568	642	730	824	998	1,156

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>C072 - Database analysts and data administrators **</b>											
Demand Projection	2,800	2,900	2,900	3,000	3,100	3,200	3,200	3,300	3,400	3,500	3,500
Supply Projection	2,873	2,974	2,973	3,070	3,165	3,259	3,258	3,355	3,447	3,546	3,537
Cumulative Shortage*	26	25	26	30	35	40	42	45	52	54	62
<b>C073 - Software engineers and designers **</b>											
Demand Projection	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,200	4,300	4,400
Supply Projection	3,429	3,520	3,613	3,702	3,796	3,883	3,976	4,065	4,065	4,154	4,241
Cumulative Shortage*	71	80	87	97	104	116	124	135	135	146	159
<b>C074 - Computer programmers and interactive media developers</b>											
Demand Projection	12,599	12,999	13,299	13,599	13,898	14,298	14,598	14,898	15,298	15,598	15,998
Supply Projection	12,774	13,172	13,472	13,751	14,050	14,416	14,714	14,990	15,346	15,634	16,002
Cumulative Shortage*	125	127	127	148	149	182	185	209	252	264	297
<b>C075 - Web designers and developers **</b>											
Demand Projection	1,700	1,700	1,700	1,800	1,800	1,900	1,900	2,000	2,000	2,000	2,100
Supply Projection	1,682	1,678	1,677	1,766	1,766	1,842	1,842	1,929	1,929	1,929	2,009
Cumulative Shortage*	18	22	23	34	34	58	58	71	71	71	91
<b>C112 - Geological and mineral technologists and technicians **</b>											
Demand Projection	5,502	5,602	5,702	5,902	6,002	6,102	6,302	6,502	6,602	6,702	6,902
Supply Projection	5,635	5,701	5,773	5,878	5,913	6,011	6,156	6,242	6,237	6,263	6,307
Cumulative Shortage*	367	401	429	524	589	591	646	760	865	939	1,095
<b>C125 - Landscape and horticultural technicians and specialists **</b>											
Demand Projection	2,001	2,001	2,101	2,101	2,201	2,201	2,301	2,301	2,401	2,401	2,501
Supply Projection	1,991	1,989	2,078	2,072	2,141	2,133	2,216	2,191	2,248	2,198	2,242
Cumulative Shortage*	10	12	23	30	60	68	85	110	153	203	259
<b>C131 - Civil engineering technologists and technicians **</b>											
Demand Projection	3,200	3,300	3,400	3,500	3,500	3,600	3,700	3,800	3,900	3,900	4,000
Supply Projection	3,186	3,277	3,365	3,456	3,449	3,530	3,617	3,697	3,777	3,757	3,815
Cumulative Shortage*	14	23	35	44	51	70	83	103	123	143	185
<b>C133 - Industrial engineering and manufacturing technologists and technicians **</b>											
Demand Projection	1,500	1,600	1,600	1,700	1,700	1,700	1,800	1,800	1,900	1,900	1,900
Supply Projection	1,490	1,575	1,571	1,657	1,654	1,645	1,724	1,717	1,787	1,781	1,767
Cumulative Shortage*	10	25	29	43	46	55	76	83	113	119	133
<b>C134 - Construction estimators **</b>											
Demand Projection	1,600	1,600	1,700	1,700	1,800	1,800	1,800	1,900	1,900	1,900	1,900
Supply Projection	1,666	1,661	1,744	1,740	1,834	1,824	1,818	1,891	1,884	1,850	1,836
Cumulative Shortage*	0	5	22	26	32	42	48	75	82	116	130

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>C141 - Electrical and electronics engineering technologists and technicians **</b>											
Demand Projection	1,900	1,900	2,000	2,000	2,000	2,100	2,200	2,200	2,200	2,300	2,300
Supply Projection	1,895	1,887	1,970	1,959	1,944	2,024	2,106	2,085	2,062	2,130	2,115
Cumulative Shortage*	5	14	30	42	57	76	94	115	138	170	185
<b>C142 - Electronic service technicians (household and business equipment)</b>											
Demand Projection	8,501	8,801	9,001	9,201	9,501	9,801	10,002	10,302	10,502	10,702	11,002
Supply Projection	8,889	9,174	9,354	9,529	9,810	10,089	10,271	10,524	10,668	10,817	11,036
Cumulative Shortage*	12	27	47	73	92	113	130	178	233	285	366
<b>C143 - Industrial instrument technicians and mechanics</b>											
Demand Projection	3,401	3,501	3,601	3,701	3,801	3,901	3,901	4,001	4,101	4,201	4,301
Supply Projection	3,391	3,463	3,550	3,635	3,722	3,809	3,799	3,882	3,961	4,038	4,117
Cumulative Shortage*	9	37	50	65	78	92	102	118	139	163	183
<b>C153 - Drafting technologists and technicians</b>											
Demand Projection	5,101	5,201	5,401	5,501	5,601	5,701	5,801	6,001	6,101	6,201	6,401
Supply Projection	5,281	5,341	5,489	5,574	5,645	5,729	5,806	5,924	5,974	6,013	6,087
Cumulative Shortage*	20	61	112	127	156	172	195	278	328	388	515
<b>C155 - Mapping and related technologists and technicians **</b>											
Demand Projection	1,500	1,600	1,600	1,700	1,700	1,700	1,800	1,800	1,900	1,900	1,900
Supply Projection	1,473	1,539	1,526	1,607	1,600	1,600	1,684	1,681	1,749	1,740	1,725
Cumulative Shortage*	27	62	74	94	101	101	116	119	152	160	175
<b>C161 - Non-Destructive testers and inspectors **</b>											
Demand Projection	2,799	2,899	2,899	2,999	3,099	3,199	3,199	3,299	3,399	3,399	3,499
Supply Projection	2,998	3,101	3,098	3,199	3,292	3,391	3,380	3,475	3,569	3,554	3,641
Cumulative Shortage*	0	-2	1	0	6	7	18	24	30	44	58
<b>C163 - Inspectors in public and environmental health and occupational health and safety</b>											
Demand Projection	5,398	5,598	5,698	5,798	5,998	6,098	6,297	6,397	6,597	6,697	6,797
Supply Projection	5,579	5,766	5,864	5,956	6,138	6,227	6,412	6,491	6,672	6,747	6,817
Cumulative Shortage*	119	132	133	141	159	171	185	207	226	250	280
<b>C164 - Construction inspectors **</b>											
Demand Projection	1,599	1,599	1,599	1,699	1,699	1,799	1,799	1,799	1,899	1,899	1,899
Supply Projection	1,595	1,592	1,589	1,679	1,667	1,754	1,744	1,729	1,809	1,794	1,777
Cumulative Shortage*	4	7	10	20	33	45	55	70	90	105	122
<b>C171 - Air pilots, flight engineers and flying instructors **</b>											
Demand Projection	2,300	2,300	2,400	2,400	2,400	2,500	2,500	2,600	2,600	2,700	2,700
Supply Projection	2,282	2,282	2,381	2,381	2,362	2,461	2,460	2,554	2,548	2,638	2,626
Cumulative Shortage*	118	118	119	119	138	139	140	146	152	162	174

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution

## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>C181 - Computer network technicians</b>											
Demand Projection	4,800	4,900	5,000	5,100	5,300	5,400	5,500	5,700	5,800	5,900	6,000
Supply Projection	5,109	5,210	5,229	5,216	5,323	5,378	5,434	5,534	5,518	5,439	5,354
Cumulative Shortage*	-9	-10	71	184	277	322	366	466	582	761	946
<b>C182 - User support technicians</b>											
Demand Projection	5,000	5,200	5,300	5,400	5,600	5,700	5,900	6,000	6,200	6,300	6,500
Supply Projection	5,102	5,249	5,342	5,430	5,620	5,716	5,913	5,990	6,177	6,260	6,416
Cumulative Shortage*	-2	51	58	70	80	84	87	110	123	140	184
<b>D011 - Specialist physicians **</b>											
Demand Projection	1,900	1,900	1,900	2,000	2,000	2,100	2,200	2,200	2,300	2,300	2,400
Supply Projection	1,889	1,889	1,887	1,943	1,938	1,990	2,002	1,967	1,973	1,921	1,881
Cumulative Shortage*	11	11	13	57	62	110	198	233	327	379	519
<b>D012 - General practitioners and family physicians **</b>											
Demand Projection	5,100	5,000	5,100	5,200	5,400	5,500	5,700	5,800	6,000	6,100	6,200
Supply Projection	5,072	4,973	5,031	5,104	5,196	5,264	5,345	5,305	5,372	5,282	5,222
Cumulative Shortage*	28	27	69	96	204	236	355	495	628	818	978
<b>D013 - Dentists **</b>											
Demand Projection	1,500	1,500	1,500	1,600	1,600	1,700	1,700	1,700	1,800	1,800	1,900
Supply Projection	1,591	1,591	1,578	1,643	1,640	1,704	1,697	1,652	1,686	1,627	1,642
Cumulative Shortage*	9	9	22	57	60	96	103	148	214	273	358
<b>D014 - Veterinarians **</b>											
Demand Projection	2,300	2,400	2,400	2,500	2,500	2,600	2,600	2,700	2,800	2,800	2,900
Supply Projection	2,248	2,346	2,344	2,429	2,422	2,505	2,493	2,565	2,635	2,617	2,673
Cumulative Shortage*	52	54	56	71	78	95	107	135	165	183	227
<b>D031 - Pharmacists **</b>											
Demand Projection	1,699	1,799	1,799	1,799	1,898	1,998	1,998	2,098	2,098	2,198	2,198
Supply Projection	1,701	1,801	1,800	1,799	1,898	1,997	1,993	2,037	1,977	1,998	1,922
Cumulative Shortage*	-3	-3	-1	-1	0	1	6	62	121	200	276
<b>D042 - Physiotherapists **</b>											
Demand Projection	4,102	4,002	4,102	4,202	4,302	4,402	4,602	4,703	4,803	4,903	5,003
Supply Projection	4,114	4,006	4,096	4,185	4,270	4,352	4,510	4,570	4,535	4,527	4,450
Cumulative Shortage*	-12	-4	7	17	32	50	92	133	267	376	552
<b>D043 - Occupational therapists **</b>											
Demand Projection	1,601	1,601	1,601	1,701	1,701	1,801	1,801	1,901	1,901	2,001	2,001
Supply Projection	1,605	1,599	1,596	1,692	1,689	1,764	1,759	1,819	1,795	1,783	1,745
Cumulative Shortage*	-5	2	5	9	12	37	42	82	106	218	256

\* Supply Shortage if positive  
Supply Surplus if negative

\*\* Historical data has a coefficient of variation >16.5% and <33.3% and should be used with caution

## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>D111 - Head nurses and supervisors **</b>											
Demand Projection	400	400	400	400	400	400	400	500	500	500	500
Supply Projection	432	429	427	423	419	415	412	501	500	498	496
Cumulative Shortage*	68	71	73	77	81	85	88	99	100	102	104
<b>D112 - Registered nurses</b>											
Demand Projection	36,102	35,902	36,502	37,302	38,302	39,502	40,602	41,602	42,502	43,402	44,402
Supply Projection	36,364	36,163	36,498	37,109	37,894	38,613	39,129	39,482	39,663	39,802	39,965
Cumulative Shortage*	-262	-261	4	193	408	890	1,473	2,120	2,839	3,600	4,437
<b>D211 - Medical laboratory technologists and pathologists' assistants **</b>											
Demand Projection	1,600	1,600	1,600	1,700	1,700	1,800	1,800	1,900	1,900	2,000	2,000
Supply Projection	1,589	1,588	1,583	1,668	1,663	1,733	1,725	1,808	1,795	1,854	1,820
Cumulative Shortage*	11	12	18	32	38	67	75	92	106	147	180
<b>D212 - Medical laboratory technicians **</b>											
Demand Projection	4,901	4,801	4,901	5,001	5,201	5,301	5,501	5,601	5,701	5,901	6,001
Supply Projection	4,848	4,724	4,815	4,898	5,087	5,163	5,341	5,427	5,507	5,662	5,722
Cumulative Shortage*	53	76	86	103	114	138	160	174	194	239	279
<b>D215 - Medical radiation technologists **</b>											
Demand Projection	1,500	1,500	1,500	1,600	1,600	1,700	1,700	1,800	1,800	1,800	1,900
Supply Projection	1,490	1,489	1,487	1,580	1,578	1,669	1,664	1,759	1,753	1,741	1,819
Cumulative Shortage*	10	11	13	20	22	31	36	42	47	59	81
<b>D223 - Dental technologists, technicians and laboratory bench workers **</b>											
Demand Projection	1,499	1,499	1,599	1,599	1,699	1,699	1,699	1,799	1,799	1,899	1,899
Supply Projection	1,588	1,577	1,678	1,678	1,771	1,769	1,764	1,840	1,809	1,859	1,852
Cumulative Shortage*	11	23	21	21	28	30	35	59	90	140	147
<b>D233 - Licensed practical nurses</b>											
Demand Projection	7,799	7,799	7,899	8,099	8,299	8,499	8,799	8,999	9,199	9,399	9,599
Supply Projection	7,891	7,860	7,946	8,118	8,255	8,456	8,736	8,861	8,942	8,953	9,003
Cumulative Shortage*	8	39	53	81	144	143	163	238	356	546	695
<b>D234 - Ambulance attendants and other paramedical occupations **</b>											
Demand Projection	3,999	3,999	3,999	4,099	4,199	4,399	4,499	4,599	4,699	4,799	4,899
Supply Projection	4,080	4,065	4,059	4,146	4,243	4,446	4,546	4,614	4,700	4,784	4,866
Cumulative Shortage*	19	35	40	54	56	53	53	85	99	115	133
<b>D235 - Other technical occupations in therapy and assessment **</b>											
Demand Projection	1,800	1,900	1,900	2,000	2,000	2,100	2,100	2,200	2,300	2,300	2,400
Supply Projection	1,898	1,996	1,993	2,077	2,076	2,180	2,180	2,249	2,292	2,285	2,324
Cumulative Shortage*	2	4	7	23	24	20	20	51	108	115	175

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>D311 - Dental assistants **</b>											
Demand Projection	3,000	3,000	3,100	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,700
Supply Projection	3,181	3,165	3,214	3,210	3,284	3,333	3,411	3,481	3,538	3,599	3,593
Cumulative Shortage*	19	35	86	90	116	167	189	219	262	301	307
<b>D312 - Nurse aides, orderlies and patient service associates</b>											
Demand Projection	21,400	21,300	21,600	22,100	22,700	23,400	24,100	24,600	25,200	25,800	26,300
Supply Projection	21,918	21,794	21,974	22,338	22,815	23,292	23,883	24,265	24,725	25,136	25,432
Cumulative Shortage*	82	106	226	362	485	708	817	935	1,075	1,264	1,468
<b>D313 - Other assisting occupations in support of health services</b>											
Demand Projection	9,200	9,400	9,600	9,900	10,200	10,500	10,800	11,000	11,300	11,600	11,900
Supply Projection	9,244	9,388	9,514	9,720	9,978	10,237	10,508	10,673	10,927	11,165	11,353
Cumulative Shortage*	56	112	186	280	322	363	392	427	473	535	647
<b>E012 - Lawyers and Quebec notaries **</b>											
Demand Projection	6,900	7,100	7,200	7,400	7,500	7,700	7,900	8,000	8,200	8,400	8,600
Supply Projection	6,993	7,193	7,293	7,492	7,591	7,792	7,990	8,081	8,270	8,452	8,627
Cumulative Shortage*	7	7	7	8	9	8	10	19	30	48	73
<b>E021 - Psychologists **</b>											
Demand Projection	2,101	2,101	2,201	2,201	2,301	2,401	2,401	2,501	2,601	2,601	2,701
Supply Projection	2,095	2,095	2,195	2,195	2,290	2,386	2,385	2,483	2,581	2,575	2,672
Cumulative Shortage*	5	5	6	6	11	15	15	17	20	25	29
<b>E022 - Social workers **</b>											
Demand Projection	4,401	4,501	4,601	4,701	4,901	5,001	5,101	5,201	5,402	5,502	5,602
Supply Projection	4,589	4,694	4,798	4,902	5,100	5,198	5,299	5,400	5,603	5,697	5,794
Cumulative Shortage*	12	7	3	0	1	4	2	1	-2	4	7
<b>E023 - Family, marriage and other related counsellors **</b>											
Demand Projection	3,301	3,301	3,401	3,501	3,601	3,701	3,801	3,901	4,001	4,101	4,101
Supply Projection	3,392	3,393	3,495	3,597	3,692	3,790	3,891	3,991	4,090	4,185	4,180
Cumulative Shortage*	9	8	6	4	9	11	10	10	11	16	21
<b>E024 - Ministers of religion **</b>											
Demand Projection	3,901	4,001	4,101	4,201	4,401	4,501	4,701	4,801	4,901	5,001	5,201
Supply Projection	3,865	3,964	4,062	4,160	4,316	4,386	4,566	4,651	4,736	4,812	4,981
Cumulative Shortage*	36	37	39	41	86	115	136	151	166	189	221
<b>E031 - Natural and applied science policy researchers, consultants and program officers</b>											
Demand Projection	5,800	6,000	6,100	6,200	6,300	6,500	6,600	6,800	7,000	7,100	7,300
Supply Projection	5,870	6,072	6,171	6,270	6,369	6,566	6,662	6,856	7,047	7,141	7,332
Cumulative Shortage*	30	28	29	30	31	34	38	44	53	59	68

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Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>E032 - Economists and economic policy researchers and analysts **</b>											
Demand Projection	1,600	1,700	1,700	1,800	1,800	1,900	1,900	1,900	2,000	2,000	2,100
Supply Projection	1,591	1,690	1,690	1,788	1,788	1,885	1,884	1,882	1,978	1,976	2,071
Cumulative Shortage*	9	10	10	12	12	15	16	18	22	24	29
<b>E033 - Business development officers and marketing researchers and consultants **</b>											
Demand Projection	3,000	3,100	3,200	3,200	3,300	3,400	3,500	3,600	3,600	3,700	3,800
Supply Projection	2,983	3,082	3,181	3,180	3,275	3,369	3,463	3,554	3,551	3,637	3,721
Cumulative Shortage*	17	18	19	20	25	31	37	46	49	63	79
<b>E034 - Social policy researchers, consultants and program officers **</b>											
Demand Projection	3,200	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,800	3,900	4,000
Supply Projection	3,182	3,182	3,280	3,378	3,475	3,572	3,668	3,762	3,758	3,852	3,945
Cumulative Shortage*	18	18	20	22	25	28	32	38	42	48	55
<b>E035 - Education policy researchers, consultants and program officers **</b>											
Demand Projection	3,300	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,300
Supply Projection	3,487	3,698	3,803	3,906	4,010	4,112	4,214	4,315	4,413	4,513	4,507
Cumulative Shortage*	13	2	-3	-6	-10	-12	-14	-15	-13	-13	-7
<b>E036 - Recreation, sports and fitness program supervisors and consultants **</b>											
Demand Projection	3,200	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
Supply Projection	3,387	3,388	3,492	3,596	3,700	3,802	3,904	4,005	4,105	4,205	4,303
Cumulative Shortage*	13	12	8	4	0	-2	-4	-5	-5	-5	-3
<b>E039 - Health policy researchers, consultants and program officers **</b>											
Demand Projection	2,300	2,400	2,400	2,500	2,600	2,600	2,700	2,700	2,800	2,900	2,900
Supply Projection	2,287	2,386	2,386	2,483	2,579	2,578	2,672	2,670	2,762	2,850	2,848
Cumulative Shortage*	13	14	14	17	21	22	28	30	38	50	52
<b>E111 - University professors **</b>											
Demand Projection	5,799	6,099	6,299	6,499	6,699	6,899	7,099	7,299	7,399	7,599	7,699
Supply Projection	5,797	6,095	6,294	6,492	6,691	6,888	7,086	7,284	7,381	7,578	7,675
Cumulative Shortage*	2	4	5	7	9	11	13	15	18	21	24
<b>E112 - Post-Secondary teaching and research assistants</b>											
Demand Projection	10,399	10,899	11,299	11,698	12,098	12,498	12,898	13,098	13,398	13,598	13,798
Supply Projection	10,377	10,851	11,233	11,614	11,995	12,372	12,747	12,920	13,189	13,356	13,522
Cumulative Shortage*	22	47	65	85	103	126	152	179	209	242	276
<b>E121 - College and other vocational instructors</b>											
Demand Projection	11,202	11,702	12,002	12,402	12,802	13,203	13,603	13,903	14,203	14,403	14,703
Supply Projection	11,265	11,754	12,040	12,427	12,810	13,192	13,574	13,856	14,135	14,313	14,588
Cumulative Shortage*	37	49	62	76	93	110	128	147	168	190	215

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>E131 - Secondary school teachers **</b>											
Demand Projection	16,200	17,000	17,500	18,200	18,800	19,400	20,000	20,400	20,800	21,200	21,600
Supply Projection	16,777	17,586	18,030	18,670	19,228	19,825	20,358	20,685	21,001	21,308	21,601
Cumulative Shortage*	23	14	70	130	172	175	242	315	399	492	599
<b>E132 - Elementary school and kindergarten teachers</b>											
Demand Projection	25,100	26,400	27,100	28,200	29,100	30,100	31,000	31,600	32,200	32,800	33,400
Supply Projection	25,715	26,964	27,656	28,651	29,521	30,451	31,284	31,801	32,302	32,788	33,254
Cumulative Shortage*	-15	36	44	149	179	249	316	399	498	612	746
<b>E133 - Educational counsellors **</b>											
Demand Projection	2,400	2,500	2,600	2,700	2,700	2,800	2,900	3,000	3,000	3,100	3,100
Supply Projection	2,504	2,607	2,711	2,813	2,812	2,915	3,017	3,120	3,118	3,219	3,217
Cumulative Shortage*	-4	-7	-11	-13	-12	-15	-17	-20	-18	-19	-17
<b>E211 - Paralegal and related occupations</b>											
Demand Projection	7,999	8,199	8,399	8,599	8,699	8,999	9,199	9,399	9,599	9,799	9,999
Supply Projection	8,208	8,414	8,607	8,803	8,881	9,166	9,344	9,515	9,688	9,852	10,014
Cumulative Shortage*	-9	-14	-7	-3	18	33	55	84	111	148	185
<b>E212 - Community and social service workers</b>											
Demand Projection	12,199	12,399	12,699	13,099	13,499	13,899	14,199	14,499	14,799	15,199	15,499
Supply Projection	12,502	12,704	12,993	13,389	13,775	14,139	14,404	14,658	14,919	15,265	15,500
Cumulative Shortage*	-3	-5	5	9	24	50	94	141	180	233	298
<b>E213 - Employment counsellors **</b>											
Demand Projection	2,900	2,900	3,000	3,100	3,200	3,200	3,300	3,400	3,500	3,600	3,600
Supply Projection	2,901	2,901	2,996	3,093	3,187	3,176	3,267	3,355	3,444	3,530	3,514
Cumulative Shortage*	-1	-1	3	7	13	24	33	45	56	70	86
<b>E215 - Other instructors **</b>											
Demand Projection	1,300	1,400	1,400	1,500	1,500	1,600	1,600	1,600	1,700	1,700	1,700
Supply Projection	1,290	1,380	1,380	1,470	1,470	1,560	1,560	1,560	1,650	1,650	1,650
Cumulative Shortage*	10	20	20	30	30	40	40	40	50	50	50
<b>E217 - Early childhood educators and assistants</b>											
Demand Projection	20,798	20,698	20,998	21,498	22,098	22,798	23,398	23,998	24,498	25,098	25,598
Supply Projection	21,515	21,413	21,687	22,178	22,747	23,398	23,948	24,475	24,905	25,414	25,812
Cumulative Shortage*	-17	-15	11	20	51	100	150	223	292	384	486
<b>F024 - Professional occupations in public relations and communications **</b>											
Demand Projection	5,700	5,800	6,000	6,100	6,300	6,400	6,600	6,800	6,900	7,100	7,200
Supply Projection	5,720	5,817	6,014	6,109	6,299	6,385	6,561	6,725	6,783	6,946	6,983
Cumulative Shortage*	80	83	86	91	101	115	139	175	217	254	317

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Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>F031 - Producers, directors, choreographers and related occupations</b>											
Demand Projection	1,900	1,901	2,001	2,001	2,101	2,201	2,201	2,301	2,301	2,401	2,401
Supply Projection	1,895	1,889	1,978	1,971	2,056	2,136	2,129	2,208	2,205	2,272	2,261
Cumulative Shortage*	5	11	23	30	44	65	71	93	95	129	140
<b>F033 - Musicians and singers **</b>											
Demand Projection	3,801	4,001	4,101	4,201	4,401	4,501	4,701	4,801	4,901	5,001	5,101
Supply Projection	3,790	3,976	4,063	4,149	4,340	4,407	4,585	4,675	4,723	4,802	4,875
Cumulative Shortage*	11	26	38	52	61	94	116	126	178	199	226
<b>F111 - Library and archive technicians and assistants **</b>											
Demand Projection	1,700	1,700	1,800	1,800	1,900	1,900	2,000	2,100	2,100	2,100	2,200
Supply Projection	1,712	1,695	1,776	1,757	1,852	1,833	1,918	2,000	1,981	1,960	2,034
Cumulative Shortage*	88	105	124	143	148	167	182	200	219	240	266
<b>F141 - Graphic designers and illustrators</b>											
Demand Projection	7,297	7,497	7,597	7,797	7,997	8,197	8,397	8,597	8,797	8,897	9,196
Supply Projection	7,573	7,762	7,834	8,013	8,185	8,360	8,536	8,691	8,848	8,885	9,091
Cumulative Shortage*	24	36	63	84	112	137	161	206	249	311	405
<b>F142 - Interior designers **</b>											
Demand Projection	2,399	2,499	2,499	2,599	2,599	2,699	2,799	2,799	2,899	2,899	2,999
Supply Projection	2,387	2,471	2,461	2,550	2,539	2,620	2,706	2,691	2,772	2,752	2,817
Cumulative Shortage*	12	28	38	49	60	79	93	108	127	147	182
<b>F144 - Artisans and craftspersons</b>											
Demand Projection	1,000	1,000	1,000	1,100	1,100	1,100	1,200	1,200	1,200	1,200	1,299
Supply Projection	990	989	988	1,078	1,077	1,076	1,166	1,165	1,163	1,162	1,252
Cumulative Shortage*	10	11	11	22	22	23	33	35	37	38	47
<b>F152 - Coaches **</b>											
Demand Projection	600	600	700	700	700	700	700	800	800	800	800
Supply Projection	757	755	856	854	853	850	849	948	945	944	943
Cumulative Shortage*	-12	-10	-11	-9	-8	-5	-4	-3	0	1	2
<b>F154 - Program leaders and instructors in recreation, sport and fitness</b>											
Demand Projection	8,900	9,100	9,300	9,600	9,900	10,300	10,600	10,900	11,100	11,400	11,600
Supply Projection	9,573	9,664	9,735	9,901	10,104	10,333	10,557	10,765	10,849	11,036	11,106
Cumulative Shortage*	27	136	265	399	496	667	743	835	951	1,064	1,194
<b>G011 - Retail trade supervisors</b>											
Demand Projection	19,900	20,500	21,000	21,600	22,300	23,100	23,800	24,500	25,000	25,700	26,500
Supply Projection	20,141	20,718	21,189	21,767	22,450	23,205	23,893	24,566	25,027	25,664	26,405
Cumulative Shortage*	259	282	311	333	350	395	407	434	473	536	595

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G012 - Food service supervisors</b>											
Demand Projection	6,300	6,500	6,800	7,100	7,300	7,600	7,800	8,000	8,200	8,400	8,600
Supply Projection	6,455	6,632	6,913	7,194	7,378	7,607	7,787	7,961	8,122	8,277	8,405
Cumulative Shortage*	45	68	87	106	122	193	213	239	278	323	395
<b>G015 - Cleaning supervisors **</b>											
Demand Projection	4,600	4,700	4,800	4,900	5,000	5,200	5,300	5,400	5,500	5,600	5,800
Supply Projection	4,670	4,762	4,856	4,952	5,047	5,222	5,319	5,412	5,504	5,590	5,735
Cumulative Shortage*	30	38	44	48	53	78	81	88	96	110	165
<b>G016 - Other service supervisors **</b>											
Demand Projection	4,100	4,200	4,400	4,500	4,600	4,700	4,900	5,000	5,100	5,200	5,300
Supply Projection	4,207	4,304	4,499	4,597	4,695	4,788	4,985	5,082	5,175	5,263	5,351
Cumulative Shortage*	93	96	101	103	105	112	115	118	125	137	149
<b>G111 - Sales representatives - Wholesale trade (non-technical)</b>											
Demand Projection	26,202	27,002	27,602	28,302	29,202	30,102	31,002	31,803	32,503	33,303	34,303
Supply Projection	27,303	28,060	28,588	29,213	30,041	30,875	31,692	32,369	32,913	33,547	34,357
Cumulative Shortage*	99	142	214	289	361	427	510	633	790	955	1,146
<b>G121 - Technical sales specialists - Wholesale trade</b>											
Demand Projection	14,500	14,900	15,200	15,600	16,100	16,600	17,000	17,500	17,900	18,300	18,800
Supply Projection	14,886	15,275	15,564	15,928	16,379	16,861	17,241	17,713	18,065	18,405	18,829
Cumulative Shortage*	114	125	136	172	221	239	259	287	335	395	471
<b>G131 - Insurance agents and brokers</b>											
Demand Projection	7,499	7,699	7,899	8,099	8,299	8,499	8,699	8,799	8,999	9,199	9,399
Supply Projection	7,594	7,793	7,993	8,195	8,395	8,590	8,790	8,887	9,058	9,239	9,404
Cumulative Shortage*	5	6	6	4	4	9	9	12	41	60	95
<b>G132 - Real estate agents and salespersons</b>											
Demand Projection	8,499	8,799	8,999	9,199	9,499	9,699	9,899	10,099	10,299	10,399	10,599
Supply Projection	8,697	9,000	9,202	9,406	9,710	9,910	10,112	10,309	10,508	10,604	10,801
Cumulative Shortage*	2	0	-3	-7	-11	-11	-13	-10	-9	-5	-2
<b>G133 - Retail and wholesale buyers</b>											
Demand Projection	5,199	5,299	5,399	5,599	5,799	5,899	6,099	6,299	6,399	6,599	6,799
Supply Projection	5,101	5,200	5,296	5,484	5,674	5,769	5,956	6,138	6,232	6,413	6,595
Cumulative Shortage*	98	100	104	115	126	130	144	161	168	187	205
<b>G211 - Retail salespersons and sales clerks</b>											
Demand Projection	70,898	72,998	74,698	76,698	79,298	81,898	84,198	86,597	88,397	90,697	93,597
Supply Projection	76,318	78,084	79,621	81,346	83,237	85,136	86,970	88,789	89,847	91,328	93,284
Cumulative Shortage*	-20	313	477	752	1,461	2,161	2,628	3,208	3,951	4,769	5,713

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G311 - Cashiers</b>											
Demand Projection	35,500	36,600	37,600	38,700	40,100	41,500	42,600	43,900	44,800	46,000	47,500
Supply Projection	38,693	39,239	39,963	40,843	41,910	42,895	43,829	44,913	45,564	46,473	47,646
Cumulative Shortage*	7	561	837	1,057	1,390	1,805	1,971	2,187	2,436	2,727	3,054
<b>G411 - Chefs **</b>											
Demand Projection	4,901	5,001	5,201	5,501	5,701	5,901	6,001	6,201	6,401	6,501	6,701
Supply Projection	5,505	5,609	5,822	6,144	6,358	6,568	6,667	6,878	7,087	7,183	7,389
Cumulative Shortage*	-5	-8	-21	-43	-57	-67	-66	-77	-86	-82	-88
<b>G412 - Cooks</b>											
Demand Projection	21,103	21,603	22,404	23,404	24,304	25,204	25,804	26,504	27,104	27,704	28,505
Supply Projection	22,516	22,857	23,458	24,318	25,049	25,749	26,155	26,637	26,992	27,341	27,848
Cumulative Shortage*	-13	147	306	486	655	855	1,049	1,267	1,512	1,763	2,056
<b>G511 - Maitres d'hôtel and hosts/hostesses</b>											
Demand Projection	6,500	6,700	7,000	7,300	7,600	7,900	8,100	8,300	8,500	8,700	9,000
Supply Projection	6,869	7,015	7,318	7,621	7,920	8,225	8,416	8,613	8,809	8,998	9,293
Cumulative Shortage*	31	85	82	79	80	75	84	87	91	102	107
<b>G512 - Bartenders **</b>											
Demand Projection	4,100	4,200	4,400	4,600	4,700	4,900	5,100	5,200	5,300	5,500	5,600
Supply Projection	4,501	4,595	4,731	4,881	4,976	5,131	5,296	5,389	5,479	5,629	5,709
Cumulative Shortage*	-1	5	68	119	124	169	204	211	221	271	291
<b>G513 - Food and beverage servers</b>											
Demand Projection	21,900	22,600	23,500	24,500	25,500	26,500	27,200	27,900	28,600	29,300	30,000
Supply Projection	22,977	23,629	24,388	25,216	25,982	26,862	27,477	28,026	28,558	29,116	29,598
Cumulative Shortage*	23	71	212	384	618	738	823	974	1,142	1,284	1,502
<b>G611 - Police officers (except commissioned)</b>											
Demand Projection	7,897	8,097	8,297	8,497	8,697	8,897	9,196	9,396	9,596	9,796	10,096
Supply Projection	7,908	8,107	8,306	8,505	8,704	8,902	9,190	9,382	9,559	9,743	10,000
Cumulative Shortage*	-11	-10	-9	-8	-7	-5	7	15	37	53	97
<b>G612 - Firefighters **</b>											
Demand Projection	2,799	2,799	2,899	2,999	2,999	3,099	3,199	3,299	3,299	3,399	3,499
Supply Projection	2,803	2,801	2,899	2,998	2,995	3,094	3,193	3,281	3,277	3,363	3,459
Cumulative Shortage*	-4	-2	0	1	4	5	6	18	21	36	40
<b>G622 - Correctional service officers **</b>											
Demand Projection	2,500	2,600	2,700	2,700	2,800	2,900	2,900	3,000	3,100	3,200	3,200
Supply Projection	2,500	2,600	2,699	2,697	2,795	2,892	2,888	2,985	3,077	3,170	3,163
Cumulative Shortage*	0	0	1	3	5	8	12	15	23	30	37

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G631 - Security guards and related occupations</b>											
Demand Projection	7,700	7,900	8,100	8,300	8,400	8,600	8,800	9,000	9,200	9,400	9,700
Supply Projection	8,498	8,646	8,774	8,895	8,941	9,086	9,229	9,365	9,492	9,611	9,821
Cumulative Shortage*	602	654	726	805	859	914	971	1,035	1,108	1,189	1,279
<b>G711 - Travel counsellors **</b>											
Demand Projection	2,601	2,701	2,701	2,801	2,801	2,901	3,001	3,001	3,101	3,201	3,301
Supply Projection	2,602	2,687	2,682	2,763	2,756	2,838	2,925	2,920	3,005	3,082	3,151
Cumulative Shortage*	-2	13	18	37	45	63	76	81	96	118	149
<b>G715 - Hotel front desk clerks **</b>											
Demand Projection	4,901	5,001	5,201	5,501	5,701	5,901	6,101	6,301	6,401	6,601	6,701
Supply Projection	5,007	5,105	5,277	5,578	5,778	5,975	6,176	6,369	6,458	6,652	6,741
Cumulative Shortage*	-6	-4	25	23	23	26	25	33	43	50	60
<b>G723 - Casino occupations **</b>											
Demand Projection	2,700	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Supply Projection	2,699	2,695	2,795	2,894	2,992	3,082	3,179	3,264	3,356	3,447	3,535
Cumulative Shortage*	1	5	5	6	8	18	21	36	44	53	65
<b>G731 - Operators and attendants in amusement, recreation and sport</b>											
Demand Projection	7,200	7,400	7,600	7,800	8,100	8,400	8,600	8,800	9,100	9,300	9,500
Supply Projection	7,708	7,871	8,028	8,190	8,435	8,693	8,877	9,055	9,334	9,506	9,676
Cumulative Shortage*	292	329	372	410	465	507	523	545	566	594	624
<b>G811 - Visiting homemakers, housekeepers and related occupations</b>											
Demand Projection	7,499	7,599	7,799	7,999	8,199	8,399	8,599	8,799	8,999	9,199	9,299
Supply Projection	7,911	7,997	8,199	8,406	8,605	8,805	9,000	9,193	9,385	9,566	9,650
Cumulative Shortage*	-11	3	0	-6	-6	-5	0	6	14	33	49
<b>G812 - Elementary and secondary school teacher assistants</b>											
Demand Projection	14,199	14,999	15,399	15,999	16,499	17,099	17,599	17,899	18,299	18,599	18,899
Supply Projection	15,251	16,087	16,502	17,083	17,600	18,210	18,718	19,006	19,368	19,630	19,909
Cumulative Shortage*	-52	-88	-103	-84	-101	-111	-119	-108	-69	-31	-10
<b>G814 - Babysitters, nannies and parents' helpers</b>											
Demand Projection	8,299	8,499	8,699	8,899	9,199	9,499	9,799	10,099	10,299	10,499	10,799
Supply Projection	8,412	8,604	8,787	8,984	9,241	9,490	9,723	9,944	10,071	10,200	10,391
Cumulative Shortage*	-13	-5	13	16	58	110	176	256	328	400	508
<b>G911 - Hairstylists and barbers</b>											
Demand Projection	10,402	10,602	10,902	11,202	11,602	12,002	12,402	12,802	13,103	13,403	13,803
Supply Projection	10,462	10,659	10,959	11,260	11,653	12,055	12,454	12,845	13,134	13,406	13,779
Cumulative Shortage*	-60	-57	-57	-58	-51	-53	-51	-42	-31	-3	24

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G922 - Estheticians, electrologists and related occupations **</b>											
Demand Projection	4,798	4,898	4,998	5,098	5,298	5,498	5,698	5,798	5,998	6,098	6,298
Supply Projection	4,898	4,995	5,091	5,187	5,375	5,554	5,740	5,832	5,998	6,082	6,233
Cumulative Shortage*	0	3	8	11	24	44	58	66	100	116	164
<b>G923 - Pet groomers and animal care workers **</b>											
Demand Projection	4,698	4,898	4,998	5,098	5,298	5,398	5,598	5,798	5,898	6,098	6,198
Supply Projection	4,881	5,084	5,186	5,285	5,492	5,593	5,796	5,978	6,078	6,254	6,353
Cumulative Shortage*	17	15	13	13	7	5	2	20	27	43	45
<b>G924 - Other personal service occupations **</b>											
Demand Projection	1,899	1,899	1,899	1,999	2,099	2,099	2,199	2,299	2,299	2,399	2,399
Supply Projection	1,897	1,895	1,894	1,993	2,092	2,091	2,189	2,287	2,286	2,383	2,382
Cumulative Shortage*	2	4	5	7	8	8	11	13	13	16	17
<b>G931 - Light duty cleaners</b>											
Demand Projection	22,400	23,000	23,600	24,200	24,900	25,600	26,200	26,900	27,500	28,000	28,700
Supply Projection	23,694	24,291	24,756	25,335	25,980	26,664	27,278	27,991	28,599	29,102	29,811
Cumulative Shortage*	406	409	544	565	620	636	622	609	601	598	589
<b>G932 - Specialized cleaners</b>											
Demand Projection	5,700	5,800	6,000	6,100	6,300	6,500	6,600	6,800	6,900	7,100	7,300
Supply Projection	6,311	6,411	6,497	6,586	6,712	6,859	6,962	7,142	7,243	7,396	7,582
Cumulative Shortage*	-11	-11	103	114	188	241	238	258	257	304	318
<b>G933 - Janitors, caretakers and building superintendents</b>											
Demand Projection	26,900	27,700	28,400	29,200	29,900	30,800	31,500	32,200	32,900	33,500	34,300
Supply Projection	28,616	29,040	29,229	29,570	29,933	30,369	30,931	31,506	32,015	32,457	33,033
Cumulative Shortage*	-16	360	871	1,330	1,667	2,131	2,269	2,394	2,585	2,743	2,967
<b>G941 - Butchers, meat cutters and fishmongers - Retail and wholesale **</b>											
Demand Projection	2,400	2,500	2,600	2,600	2,700	2,800	2,900	3,000	3,000	3,100	3,200
Supply Projection	2,570	2,673	2,774	2,774	2,874	2,968	3,065	3,161	3,161	3,253	3,342
Cumulative Shortage*	30	27	26	26	26	32	35	39	39	47	58
<b>G942 - Bakers</b>											
Demand Projection	5,400	5,600	5,700	5,900	6,100	6,300	6,400	6,600	6,700	6,900	7,100
Supply Projection	5,496	5,698	5,795	5,992	6,192	6,390	6,486	6,684	6,771	6,967	7,161
Cumulative Shortage*	104	102	105	108	108	110	114	116	129	133	139
<b>G961 - Food counter attendants, kitchen helpers and related occupations</b>											
Demand Projection	36,596	37,596	38,996	40,595	42,095	43,795	44,895	45,995	47,095	48,195	49,494
Supply Projection	29,634	40,511	41,840	43,351	44,719	46,312	47,253	48,160	49,037	49,890	50,915
Cumulative Shortage*	-39	84	156	244	377	483	642	835	1,057	1,305	1,579

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>G971 - Service station attendants **</b>											
Demand Projection	1,600	1,700	1,700	1,700	1,800	1,900	1,900	2,000	2,000	2,100	2,200
Supply Projection	1,799	1,906	1,867	1,839	1,904	1,984	1,974	2,053	2,035	2,114	2,180
Cumulative Shortage*	1	-6	33	62	96	116	127	148	165	186	220
<b>G972 - Grocery clerks and store shelf stockers</b>											
Demand Projection	18,202	18,702	19,102	19,702	20,402	21,102	21,702	22,302	22,802	23,402	24,202
Supply Projection	20,202	20,432	20,737	21,256	21,836	22,460	23,019	23,567	23,973	24,476	25,150
Cumulative Shortage*	0	270	365	446	566	642	683	735	829	927	1,052
<b>G973 - Other elemental sales occupations **</b>											
Demand Projection	3,100	3,200	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Supply Projection	3,306	3,402	3,341	3,380	3,402	3,464	3,526	3,579	3,639	3,697	3,722
Cumulative Shortage*	-6	-2	59	120	198	237	274	321	361	403	478
<b>G981 - Dry cleaning and laundry occupations **</b>											
Demand Projection	2,102	2,202	2,302	2,302	2,402	2,502	2,602	2,602	2,702	2,802	2,802
Supply Projection	2,298	2,361	2,461	2,461	2,562	2,664	2,764	2,764	2,865	2,954	2,953
Cumulative Shortage*	103	141	141	141	140	138	138	138	138	148	149
<b>G983 - Other elemental service occupations **</b>											
Demand Projection	2,702	2,702	2,802	2,902	3,002	3,102	3,202	3,302	3,403	3,403	3,503
Supply Projection	2,935	2,933	2,997	3,073	3,154	3,235	3,313	3,384	3,457	3,444	3,506
Cumulative Shortage*	67	69	105	129	148	167	190	118	246	259	296
<b>H012 - Contractors and supervisors, electrical trades and telecommunications occupations **</b>											
Demand Projection	5,300	5,400	5,600	5,700	5,900	6,100	6,100	6,200	6,300	6,300	6,400
Supply Projection	5,363	5,458	5,645	5,732	5,918	6,105	6,090	6,175	6,255	6,237	6,314
Cumulative Shortage*	37	42	55	68	82	95	110	125	145	163	186
<b>H013 - Contractors and supervisors, pipefitting trades **</b>											
Demand Projection	2,800	2,900	3,000	3,100	3,100	3,200	3,300	3,300	3,400	3,400	3,500
Supply Projection	3,100	3,206	3,307	3,409	3,400	3,502	3,601	3,592	3,686	3,674	3,768
Cumulative Shortage*	0	-6	-7	-9	0	-2	-1	8	14	26	32
<b>H014 - Contractors and supervisors, metal forming shaping and erecting trades **</b>											
Demand Projection	2,100	2,100	2,200	2,200	2,300	2,400	2,400	2,500	2,500	2,500	2,600
Supply Projection	2,302	2,299	2,395	2,390	2,492	2,594	2,587	2,688	2,680	2,672	2,767
Cumulative Shortage*	-2	1	5	10	8	6	13	12	20	28	33
<b>H015 - Contractors and supervisors, carpentry trades **</b>											
Demand Projection	3,000	3,000	3,100	3,200	3,300	3,400	3,400	3,500	3,500	3,500	3,600
Supply Projection	2,989	2,986	3,063	3,146	3,228	3,312	3,291	3,365	3,351	3,327	3,395
Cumulative Shortage*	11	14	37	54	72	88	109	135	149	173	205

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H016 - Contractors and supervisors, mechanic trades</b>											
Demand Projection	9,400	9,600	9,900	10,100	10,400	10,700	10,900	11,200	11,400	11,600	11,800
Supply Projection	9,571	9,765	10,043	10,221	10,501	10,780	10,954	11,228	11,390	11,552	11,712
Cumulative Shortage*	29	35	57	79	99	120	146	172	210	248	288
<b>H017 - Contractors and supervisors, heavy construction equipment crews</b>											
Demand Projection	6,900	7,100	7,300	7,500	7,700	7,900	8,000	8,200	8,300	8,300	8,400
Supply Projection	7,083	7,281	7,466	7,653	7,836	8,022	8,103	8,286	8,356	8,329	8,400
Cumulative Shortage*	17	19	34	47	64	78	97	114	144	171	200
<b>H019 - Contractors and supervisors, other construction trades, installers, repairers and servicers</b>											
Demand Projection	13,700	13,900	14,400	14,900	15,300	15,700	15,800	16,100	16,300	16,300	16,400
Supply Projection	14,285	14,428	14,900	15,382	15,759	16,136	16,195	16,455	16,608	16,560	16,606
Cumulative Shortage*	15	72	100	118	141	164	205	245	292	340	394
<b>H022 - Supervisors, motor transport and other ground transit operators **</b>											
Demand Projection	6,198	6,398	6,598	6,598	6,798	6,998	7,098	7,298	7,398	7,498	7,697
Supply Projection	6,388	6,582	6,773	6,759	6,950	7,142	7,229	7,416	7,499	7,581	7,759
Cumulative Shortage*	10	16	25	39	48	56	69	82	98	116	139
<b>H111 - Plumbers</b>											
Demand Projection	8,600	8,700	9,000	9,300	9,600	9,900	9,900	10,100	10,300	10,200	10,300
Supply Projection	8,884	8,976	9,244	9,533	9,823	10,111	10,105	10,273	10,469	10,355	10,447
Cumulative Shortage*	116	124	156	167	177	189	195	227	231	245	253
<b>H112 - Steamfitters, pipefitters and sprinkler system installers</b>											
Demand Projection	6,700	6,800	7,000	7,200	7,400	7,600	7,800	7,900	8,100	8,100	8,200
Supply Projection	7,424	7,464	7,634	7,818	8,000	8,200	8,357	8,434	8,577	8,511	8,532
Cumulative Shortage*	76	136	166	182	200	200	243	266	323	389	468
<b>H121 - Carpenters</b>											
Demand Projection	18,200	18,500	19,200	19,800	20,400	21,000	21,100	21,500	21,800	21,700	21,900
Supply Projection	19,374	19,551	20,094	20,617	21,153	21,656	21,669	21,953	22,163	21,960	22,024
Cumulative Shortage*	326	449	606	683	747	844	931	1,047	1,137	1,240	1,376
<b>H122 - Cabinetmakers **</b>											
Demand Projection	2,400	2,500	2,500	2,600	2,700	2,700	2,800	2,800	2,900	2,900	2,900
Supply Projection	2,489	2,548	2,546	2,619	2,690	2,690	2,762	2,761	2,824	2,791	2,776
Cumulative Shortage*	11	52	54	81	110	110	138	139	176	209	224
<b>H131 - Bricklayers **</b>											
Demand Projection	1,400	1,400	1,500	1,500	1,600	1,600	1,600	1,700	1,700	1,700	1,700
Supply Projection	1,992	1,991	2,102	2,102	2,227	2,227	2,207	2,312	2,308	2,281	2,276
Cumulative Shortage*	5	6	-5	-5	-30	-31	-11	-16	-11	15	20

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H132 - Concrete finishers **</b>											
Demand Projection	2,400	2,500	2,600	2,700	2,700	2,801	2,801	2,901	2,901	2,901	2,901
Supply Projection	2,353	2,433	2,519	2,596	2,592	2,671	2,658	2,728	2,717	2,692	2,680
Cumulative Shortage*	148	167	181	204	209	229	243	272	284	308	320
<b>H134 - Plasterers, drywall installers and finishers and lathers</b>											
Demand Projection	7,901	8,001	8,301	8,602	8,802	9,102	9,102	9,302	9,402	9,302	9,402
Supply Projection	8,139	8,221	8,498	8,776	8,954	9,237	9,214	9,384	9,442	9,304	9,361
Cumulative Shortage*	463	480	504	526	548	565	588	618	659	698	740
<b>H141 - Roofers and shinglers **</b>											
Demand Projection	2,000	2,100	2,100	2,200	2,300	2,300	2,300	2,400	2,400	2,400	2,400
Supply Projection	2,051	2,134	2,123	2,184	2,248	2,243	2,236	2,317	2,309	2,290	2,279
Cumulative Shortage*	49	66	77	116	152	157	164	182	191	210	220
<b>H143 - Insulators **</b>											
Demand Projection	1,700	1,700	1,800	1,800	1,900	1,900	2,000	2,000	2,000	2,000	2,000
Supply Projection	2,070	2,065	2,140	2,133	2,199	2,195	2,291	2,287	2,282	2,267	2,257
Cumulative Shortage*	30	35	59	66	101	105	109	113	118	133	142
<b>H144 - Painters and decorators</b>											
Demand Projection	8,399	8,499	8,799	9,099	9,399	9,599	9,699	9,899	9,999	9,999	9,999
Supply Projection	8,713	8,794	9,050	9,306	9,571	9,748	9,816	9,998	10,046	10,025	9,984
Cumulative Shortage*	486	505	549	593	627	651	682	701	753	774	815
<b>H145 - Floor covering installers **</b>											
Demand Projection	2,700	2,800	2,900	3,000	3,100	3,200	3,200	3,300	3,300	3,300	3,300
Supply Projection	2,934	3,025	3,104	3,166	3,230	3,318	3,307	3,390	3,378	3,351	3,336
Cumulative Shortage*	65	75	95	133	170	182	192	209	221	248	263
<b>H211 - Electricians (except industrial and power system)</b>											
Demand Projection	18,299	18,599	19,199	19,898	20,498	20,998	21,098	21,598	21,798	21,698	21,898
Supply Projection	19,277	19,527	20,082	20,704	21,247	21,714	21,790	22,232	22,372	22,214	22,338
Cumulative Shortage*	422	472	516	594	651	685	709	767	826	884	960
<b>H212 - Industrial electricians **</b>											
Demand Projection	4,500	4,700	4,800	4,900	5,000	5,100	5,300	5,400	5,500	5,600	5,600
Supply Projection	4,489	4,652	4,735	4,819	4,901	4,972	5,161	5,229	5,309	5,358	5,336
Cumulative Shortage*	11	47	64	80	99	128	139	170	190	242	263
<b>H214 - Electrical power line and cable workers **</b>											
Demand Projection	1,600	1,600	1,700	1,700	1,800	1,800	1,800	1,800	1,900	1,900	1,900
Supply Projection	1,596	1,585	1,671	1,671	1,758	1,755	1,755	1,744	1,829	1,815	1,797
Cumulative Shortage*	4	15	29	29	42	45	45	56	71	85	103

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H216 - Telecommunications installation and repair workers **</b>											
Demand Projection	2,100	2,100	2,200	2,200	2,300	2,400	2,500	2,500	2,600	2,600	2,700
Supply Projection	2,199	2,192	2,282	2,280	2,364	2,448	2,544	2,542	2,627	2,619	2,693
Cumulative Shortage*	0	8	18	20	36	52	55	58	73	80	106
<b>H221 - Stationary engineers and auxiliary equipment operators **</b>											
Demand Projection	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900
Supply Projection	3,900	3,999	4,094	4,187	4,277	4,365	4,445	4,522	4,593	4,661	4,726
Cumulative Shortage*	0	1	6	13	23	35	55	78	107	139	174
<b>H222 - Power systems and power station operators **</b>											
Demand Projection	2,000	2,000	2,100	2,200	2,200	2,200	2,300	2,300	2,400	2,400	2,400
Supply Projection	2,000	1,998	2,098	2,197	2,196	2,195	2,293	2,291	2,389	2,386	2,383
Cumulative Shortage*	0	2	2	3	4	5	7	9	11	14	17
<b>H311 - Machinists and machining and tooling inspectors **</b>											
Demand Projection	4,102	4,202	4,302	4,402	4,502	4,602	4,802	4,902	5,002	5,102	5,102
Supply Projection	4,287	4,387	4,465	4,545	4,631	4,725	4,918	5,008	5,096	5,182	5,161
Cumulative Shortage*	15	14	37	57	71	77	84	94	107	120	141
<b>H321 - Sheet metal workers **</b>											
Demand Projection	2,500	2,600	2,700	2,700	2,800	2,900	2,900	3,000	3,000	3,000	3,100
Supply Projection	2,706	2,812	2,899	2,895	2,992	3,092	3,085	3,167	3,162	3,155	3,234
Cumulative Shortage*	-6	-12	2	5	9	8	15	33	39	45	66
<b>H324 - Ironworkers **</b>											
Demand Projection	3,300	3,300	3,400	3,500	3,600	3,700	3,800	3,900	3,900	3,900	4,000
Supply Projection	3,617	3,582	3,679	3,770	3,868	3,969	4,059	4,151	4,145	4,138	4,223
Cumulative Shortage*	-16	18	21	30	32	31	41	49	55	62	77
<b>H326 - Welders and related machine operators</b>											
Demand Projection	15,601	16,001	16,402	16,802	17,302	17,802	18,202	18,602	19,002	19,302	19,702
Supply Projection	17,033	17,385	17,676	17,930	18,277	18,645	18,881	19,112	19,323	19,407	19,610
Cumulative Shortage*	-32	16	126	271	425	557	721	889	1,079	1,295	1,492
<b>H411 - Construction millwrights and industrial mechanics (except textile)</b>											
Demand Projection	9,500	9,700	10,000	10,200	10,500	10,700	11,000	11,200	11,500	11,600	11,800
Supply Projection	10,158	10,362	10,634	10,830	11,146	11,322	11,632	11,824	12,098	12,191	12,382
Cumulative Shortage*	342	338	366	370	354	378	368	376	402	409	418
<b>H412 - Heavy-duty equipment mechanics</b>											
Demand Projection	11,800	12,100	12,400	12,700	13,100	13,400	13,800	14,100	14,400	14,700	15,000
Supply Projection	12,115	12,383	12,636	12,907	13,266	13,523	13,811	14,029	14,259	14,437	14,625
Cumulative Shortage*	85	117	164	193	234	277	389	471	540	663	775

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## Appendix D

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Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H413 - Refrigeration and air conditioning mechanics **</b>											
Demand Projection	2,100	2,100	2,200	2,300	2,300	2,400	2,400	2,500	2,500	2,500	2,600
Supply Projection	2,188	2,186	2,260	2,354	2,354	2,436	2,435	2,511	2,504	2,502	2,576
Cumulative Shortage*	12	14	40	46	46	64	65	89	96	98	124
<b>H421 - Automotive service technicians, truck and bus mechanics and mechanical repairers</b>											
Demand Projection	14,702	15,102	15,502	15,902	16,402	16,902	17,402	17,902	18,302	18,702	19,202
Supply Projection	15,067	15,462	15,814	16,161	16,605	17,046	17,479	17,902	18,217	18,529	18,930
Cumulative Shortage*	134	140	187	240	297	356	422	500	584	673	772
<b>H422 - Motor vehicle body repairers **</b>											
Demand Projection	6,101	6,201	6,401	6,601	6,801	7,001	7,201	7,401	7,601	7,801	8,001
Supply Projection	6,359	6,464	6,667	6,869	7,071	7,274	7,475	7,676	7,875	8,075	8,274
Cumulative Shortage*	41	37	34	32	29	27	25	25	25	26	27
<b>H431 - Oil and solid fuel heating mechanics **</b>											
Demand Projection	299	299	299	299	299	299	299	299	299	299	299
Supply Projection	327	314	314	314	314	309	309	309	309	308	308
Cumulative Shortage*	6	18	18	18	19	23	23	23	24	25	25
<b>H434 - Motorcycle and other related mechanics</b>											
Demand Projection	499	499	499	599	599	599	599	599	599	699	699
Supply Projection	544	524	524	627	626	617	618	617	617	709	709
Cumulative Shortage*	8	28	28	25	26	35	34	34	35	42	42
<b>H512 - Tailors, dressmakers, furriers and milliners **</b>											
Demand Projection	2,903	3,003	3,003	3,103	3,203	3,303	3,403	3,504	3,504	3,604	3,704
Supply Projection	3,045	3,136	3,120	3,214	3,311	3,406	3,499	3,592	3,581	3,668	3,754
Cumulative Shortage*	57	68	83	90	92	97	104	112	123	136	150
<b>H521 - Printing press operators **</b>											
Demand Projection	2,502	2,502	2,602	2,702	2,702	2,802	2,902	2,902	3,002	3,002	3,102
Supply Projection	2,669	2,659	2,730	2,799	2,784	2,865	2,942	2,913	3,000	2,963	3,022
Cumulative Shortage*	33	43	72	103	118	137	160	189	202	239	280
<b>H523 - Other trades and related occupations **</b>											
Demand Projection	1,101	1,201	1,201	1,201	1,301	1,301	1,301	1,301	1,401	1,401	1,401
Supply Projection	1,198	1,278	1,276	1,274	1,353	1,352	1,351	1,348	1,428	1,425	1,424
Cumulative Shortage*	0	21	23	25	46	47	48	50	70	73	75
<b>H531 - Residential and commercial installers and servicers</b>											
Demand Projection	5,700	5,800	6,000	6,200	6,400	6,500	6,600	6,700	6,800	6,800	6,900
Supply Projection	5,967	6,052	6,238	6,428	6,620	6,707	6,799	6,887	6,970	6,951	7,033
Cumulative Shortage*	33	48	62	72	80	93	101	113	130	149	167

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### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H533 - Automotive mechanical installers and servicers</b>											
Demand Projection	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,400	3,500	3,600
Supply Projection	2,876	2,973	3,067	3,151	3,247	3,344	3,427	3,519	3,507	3,587	3,665
Cumulative Shortage*	24	27	33	49	53	56	73	81	93	113	135
<b>H535 - Other repairers and servicers **</b>											
Demand Projection	1,100	1,100	1,200	1,200	1,200	1,300	1,300	1,300	1,400	1,400	1,400
Supply Projection	1,120	1,118	1,211	1,211	1,209	1,300	1,298	1,297	1,386	1,382	1,381
Cumulative Shortage*	26	28	35	35	37	46	48	49	60	64	65
<b>H611 - Heavy equipment operators (except crane)</b>											
Demand Projection	14,600	14,900	15,400	15,800	16,300	16,700	16,900	17,300	17,600	17,600	17,900
Supply Projection	16,251	16,454	16,809	17,091	17,438	17,679	17,702	17,920	18,027	17,818	17,910
Cumulative Shortage*	449	546	691	809	962	1,121	1,298	1,480	1,673	1,882	2,090
<b>H612 - Public works maintenance equipment operators **</b>											
Demand Projection	3,500	3,600	3,700	3,800	3,800	3,900	4,000	4,100	4,200	4,200	4,300
Supply Projection	3,524	3,566	3,659	3,752	3,748	3,840	3,931	4,022	4,112	4,105	4,190
Cumulative Shortage*	176	234	241	248	252	260	269	278	288	295	310
<b>H621 - Crane operators **</b>											
Demand Projection	2,696	2,796	2,896	2,896	2,996	3,096	3,096	3,196	3,295	3,295	3,295
Supply Projection	2,800	2,894	3,000	2,992	3,085	3,178	3,170	3,262	3,352	3,340	3,327
Cumulative Shortage*	97	102	96	104	110	117	125	134	144	155	168
<b>H711 - Truck drivers</b>											
Demand Projection	41,799	42,799	43,799	44,299	45,399	46,499	47,498	48,498	49,398	50,198	51,098
Supply Projection	44,660	45,427	46,117	46,406	47,288	48,264	49,073	49,937	50,564	51,187	51,763
Cumulative Shortage*	439	672	982	1,192	1,411	1,534	1,725	1,861	2,134	2,311	2,635
<b>H712 - Bus drivers, subway operators and other transit operators</b>											
Demand Projection	10,600	10,900	11,200	11,300	11,600	11,900	12,100	12,40*	12,600	12,800	13,100
Supply Projection	10,955	11,248	11,537	11,615	11,909	12,208	12,396	12,693	12,884	13,069	13,356
Cumulative Shortage*	245	252	262	285	291	292	304	307	315	331	343
<b>H713 - Taxi and limousine drivers and chauffeurs</b>											
Demand Projection	6,100	6,300	6,400	6,500	6,600	6,800	6,900	7,100	7,200	7,400	7,500
Supply Projection	6,086	6,208	6,297	6,349	6,440	6,588	6,677	6,809	6,897	7,028	7,114
Cumulative Shortage*	114	192	203	251	259	312	323	391	403	472	486
<b>H714 - Delivery and courier service drivers</b>											
Demand Projection	5,900	6,100	6,200	6,400	6,500	6,700	6,900	7,100	7,200	7,400	7,500
Supply Projection	6,231	6,353	6,447	6,600	6,696	6,850	7,009	7,151	7,244	7,381	7,473
Cumulative Shortage*	69	147	152	200	204	249	290	349	356	419	427

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### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>H721 - Railway and yard locomotive engineers **</b>											
Demand Projection	401	401	401	401	401	401	401	401	401	501	501
Supply Projection	437	432	428	424	421	418	418	418	417	499	498
Cumulative Shortage*	8	13	16	21	24	27	27	27	27	46	47
<b>H732 - Railway track maintenance workers **</b>											
Demand Projection	200	200	200	200	200	300	300	300	300	300	300
Supply Projection	205	203	203	195	195	296	296	296	296	296	287
Cumulative Shortage*	-5	-3	-3	5	5	3	3	4	4	4	13
<b>H737 - Air transport ramp attendants **</b>											
Demand Projection	1,999	2,099	2,099	2,199	2,199	2,299	2,299	2,399	2,399	2,399	2,499
Supply Projection	2,156	2,177	2,179	2,255	2,254	2,349	2,349	2,454	2,453	2,453	2,536
Cumulative Shortage*	-57	22	20	44	45	49	50	45	45	45	63
<b>H812 - Material handlers</b>											
Demand Projection	22,998	23,598	24,198	24,698	25,398	26,098	26,798	27,397	27,897	28,497	29,197
Supply Projection	24,106	24,615	25,157	25,568	26,200	26,814	27,428	27,931	28,327	28,813	29,384
Cumulative Shortage*	192	283	341	430	498	583	669	766	870	984	1,113
<b>H821 - Construction trades helpers and labourers</b>											
Demand Projection	22,498	22,898	23,698	24,398	25,198	25,798	25,998	26,498	26,898	26,798	27,098
Supply Projection	24,955	25,137	25,766	26,316	26,911	27,369	27,393	27,756	28,014	27,769	27,904
Cumulative Shortage*	1,443	1,661	1,832	1,982	2,187	2,329	2,505	2,642	2,764	2,928	3,094
<b>H822 - Other trades helpers and labourers **</b>											
Demand Projection	3,300	3,400	3,500	3,600	3,700	3,800	3,800	3,900	4,000	4,100	4,200
Supply Projection	3,481	3,529	3,625	3,724	3,819	3,907	3,901	3,976	4,039	4,080	4,125
Cumulative Shortage*	518	571	575	576	581	593	599	623	661	720	774
<b>H831 - Public works and maintenance labourers **</b>											
Demand Projection	2,502	2,502	2,602	2,702	2,702	2,802	2,902	2,902	3,002	3,002	3,102
Supply Projection	2,655	2,637	2,726	2,814	2,794	2,869	2,953	2,931	3,011	2,987	3,063
Cumulative Shortage*	47	65	76	87	108	133	149	171	191	215	239
<b>I011 - Farmers and farm managers</b>											
Demand Projection	33,700	33,800	33,800	33,700	33,700	33,600	33,500	33,400	33,300	33,200	33,100
Supply Projection	33,708	33,785	33,762	33,631	33,631	33,507	33,369	33,225	33,056	32,882	32,670
Cumulative Shortage*	-8	15	38	69	69	93	131	175	244	318	430
<b>I015 - Landscaping and grounds maintenance contractors and managers **</b>											
Demand Projection	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200
Supply Projection	4,516	4,618	4,723	4,829	4,937	5,041	5,147	5,249	5,354	5,449	5,552
Cumulative Shortage*	-16	-18	-23	-29	-37	-41	-47	-49	-54	-49	-52

\* Supply Shortage if positive  
Supply Surplus if negative

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## Appendix D

### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>I016 - Supervisors, landscape and horticulture **</b>											
Demand Projection	1,900	1,900	2,000	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300
Supply Projection	2,050	2,048	2,144	2,143	2,143	2,235	2,235	2,327	2,326	2,422	2,420
Cumulative Shortage*	150	152	156	157	157	165	165	173	174	178	180
<b>I021 - General farm workers</b>											
Demand Projection	6,898	6,898	6,898	6,898	6,898	6,898	6,898	6,798	6,798	6,798	6,798
Supply Projection	7,466	7,447	7,418	7,395	7,369	7,360	7,335	7,202	7,170	7,137	7,099
Cumulative Shortage*	33	52	80	103	129	139	164	197	228	261	299
<b>I022 - Nursery and greenhouse workers **</b>											
Demand Projection	1,400	1,400	1,400	1,400	1,400	1,500	1,500	1,500	1,500	1,500	1,500
Supply Projection	1,398	1,387	1,387	1,386	1,385	1,475	1,474	1,473	1,472	1,471	1,469
Cumulative Shortage*	2	12	13	14	14	25	25	27	28	29	31
<b>I111 - Supervisors, logging and forestry **</b>											
Demand Projection	402	402	402	402	402	402	402	402	402	402	402
Supply Projection	406	406	406	406	406	406	406	406	406	406	406
Cumulative Shortage*	51	51	51	51	51	51	51	51	51	51	51
<b>I121 - Supervisors, mining and quarrying **</b>											
Demand Projection	300	400	400	400	400	400	400	400	400	400	400
Supply Projection	298	370	370	370	370	370	370	369	369	369	369
Cumulative Shortage*	2	30	30	30	30	30	30	30	30	31	31
<b>I122 - Supervisors, oil and gas drilling and service</b>											
Demand Projection	14,398	14,898	15,098	15,398	15,898	16,298	16,698	17,198	17,598	17,898	18,198
Supply Projection	14,467	14,963	15,127	15,388	15,843	16,196	16,545	16,989	17,330	17,566	17,797
Cumulative Shortage*	131	135	171	210	254	302	353	409	467	532	601
<b>I131 - Underground production and development miners **</b>											
Demand Projection	300	300	300	300	300	300	300	400	400	400	400
Supply Projection	299	299	298	298	298	297	297	341	341	341	340
Cumulative Shortage*	1	1	2	2	2	3	3	59	59	59	60
<b>I132 - Oil and gas well drillers, servicers, testers and related workers</b>											
Demand Projection	18,500	19,100	19,400	19,800	20,300	20,900	21,500	22,100	22,600	23,000	23,300
Supply Projection	19,422	19,932	20,152	20,488	20,924	21,452	21,971	22,531	22,914	23,190	23,350
Cumulative Shortage*	78	168	248	312	376	448	529	569	686	810	950
<b>I142 - Oil and gas well drilling workers and services operators</b>											
Demand Projection	6,598	6,798	6,998	7,098	7,298	7,498	7,698	7,898	8,098	8,198	8,397
Supply Projection	7,223	7,377	7,528	7,571	7,721	7,864	8,009	8,149	8,284	8,313	8,438
Cumulative Shortage*	75	121	170	227	277	333	389	449	513	585	660

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### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>I212 - Landscaping and grounds maintenance labourers</b>											
Demand Projection	8,700	9,000	9,200	9,400	9,600	9,800	10,100	10,300	10,500	10,700	11,000
Supply Projection	9,944	10,099	10,158	10,279	10,451	10,564	10,805	10,974	11,070	11,164	11,380
Cumulative Shortage*	156	301	442	521	549	636	695	726	830	936	1,020
<b>I215 - Oil and gas drilling, servicing and related labourers</b>											
Demand Projection	5,500	5,700	5,800	5,900	6,100	6,200	6,400	6,600	6,700	6,800	7,000
Supply Projection	6,191	6,265	6,283	6,340	6,427	6,478	6,607	6,691	6,730	6,767	6,878
Cumulative Shortage*	9	135	217	260	373	422	493	609	676	733	822
<b>J012 - Supervisors, petroleum, gas and chemical processing and utilities **</b>											
Demand Projection	3,501	3,601	3,701	3,801	3,901	4,001	4,001	4,101	4,201	4,301	4,401
Supply Projection	3,472	3,564	3,658	3,744	3,829	3,917	3,907	3,981	4,061	4,143	4,203
Cumulative Shortage*	29	37	43	57	72	84	94	120	140	158	198
<b>J013 - Supervisors, food, beverage and tobacco processing **</b>											
Demand Projection	1,901	2,001	2,101	2,101	2,101	2,201	2,301	2,301	2,301	2,401	2,401
Supply Projection	2,073	2,178	2,275	2,275	2,275	2,365	2,451	2,450	2,445	2,530	2,529
Cumulative Shortage*	28	22	26	26	26	36	50	51	55	71	72
<b>J015 - Supervisors, forest products processing **</b>											
Demand Projection	400	400	400	400	400	400	400	400	500	500	500
Supply Projection	397	397	396	396	396	395	394	394	489	488	488
Cumulative Shortage*	3	3	4	4	4	5	6	6	11	12	12
<b>J026 - Supervisors, other mechanical and metal products manufacturing **</b>											
Demand Projection	3,101	3,201	3,201	3,301	3,401	3,501	3,601	3,601	3,701	3,802	3,802
Supply Projection	3,003	3,127	3,112	3,196	3,280	3,363	3,444	3,470	3,548	3,623	3,593
Cumulative Shortage*	98	74	89	105	121	139	157	132	154	178	208
<b>J112 - Petroleum, gas and chemical process operators</b>											
Demand Projection	7,704	7,904	8,104	8,204	8,404	8,705	8,905	9,105	9,305	9,505	9,605
Supply Projection	7,631	7,814	8,000	8,081	8,261	8,537	8,711	8,884	9,055	9,224	9,294
Cumulative Shortage*	73	90	104	123	144	167	193	220	250	281	311
<b>J134 - Water and waste plant operators **</b>											
Demand Projection	800	900	900	900	900	900	1,000	1,000	1,000	1,000	1,000
Supply Projection	889	972	967	956	934	917	968	971	929	929	928
Cumulative Shortage*	44	61	66	77	99	116	165	162	204	204	205
<b>J171 - Process control and machine operators, food and beverage processing **</b>											
Demand Projection	2,699	2,799	2,799	2,899	2,899	2,999	3,099	3,099	3,199	3,299	3,299
Supply Projection	2,794	2,884	2,868	2,957	2,942	3,028	3,115	3,091	3,173	3,253	3,223
Cumulative Shortage*	5	16	31	43	57	71	84	108	126	146	176

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### Results of Alberta's Occupational Demand and Supply for 4-Digit NOC-S Occupations, 2011-2021

Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>J172 - Industrial butchers and meat cutters, poultry preparers and related workers **</b>											
Demand Projection	4,099	4,199	4,299	4,399	4,499	4,599	4,699	4,799	4,899	4,999	5,099
Supply Projection	4,085	4,159	4,242	4,314	4,398	4,465	4,534	4,603	4,663	4,720	4,778
Cumulative Shortage*	14	40	57	85	101	133	165	196	236	279	320
<b>J194 - Metalworking machine operators **</b>											
Demand Projection	1,500	1,600	1,600	1,700	1,700	1,700	1,800	1,800	1,900	1,900	1,900
Supply Projection	1,582	1,676	1,674	1,747	1,745	1,741	1,834	1,820	1,907	1,905	1,896
Cumulative Shortage*	18	24	26	53	55	59	66	80	93	95	104
<b>J216 - Mechanical assemblers and inspectors **</b>											
Demand Projection	800	800	800	800	800	901	901	901	901	901	1,001
Supply Projection	1,323	1,332	1,321	1,319	1,309	1,431	1,426	1,418	1,421	1,407	1,515
Cumulative Shortage*	218	209	219	222	231	210	214	222	220	234	226
<b>J222 - Furniture and fixture assemblers and inspectors **</b>											
Demand Projection	1,900	2,000	2,100	2,100	2,100	2,200	2,300	2,300	2,300	2,400	2,400
Supply Projection	1,878	1,969	2,059	2,039	2,032	2,121	2,191	2,175	2,163	2,231	2,209
Cumulative Shortage*	22	31	41	61	68	79	109	125	137	169	191
<b>J223 - Other wood products assemblers and inspectors **</b>											
Demand Projection	2,400	2,400	2,500	2,500	2,600	2,700	2,700	2,800	2,800	2,900	2,900
Supply Projection	2,570	2,561	2,656	2,648	2,744	2,839	2,833	2,923	2,905	2,998	2,974
Cumulative Shortage*	30	39	44	52	56	61	67	77	95	102	126
<b>J225 - Plastic products assemblers, finishers and inspectors **</b>											
Demand Projection	700	700	700	700	700	800	800	800	800	800	800
Supply Projection	803	803	800	798	795	899	897	897	892	889	886
Cumulative Shortage*	10	10	13	15	18	14	16	16	21	24	27
<b>J228 - Other assemblers and inspectors **</b>											
Demand Projection	1,100	1,200	1,200	1,200	1,300	1,300	1,300	1,400	1,400	1,400	1,400
Supply Projection	1,260	1,352	1,349	1,345	1,440	1,436	1,434	1,526	1,518	1,512	1,507
Cumulative Shortage*	2	10	13	17	22	26	28	36	44	50	55
<b>J312 - Labourers in metal fabrication **</b>											
Demand Projection	2,000	2,099	2,199	2,199	2,299	2,299	2,399	2,399	2,499	2,499	2,599
Supply Projection	2,312	2,376	2,468	2,450	2,561	2,518	2,609	2,581	2,689	2,644	2,743
Cumulative Shortage*	-113	-76	-68	-50	-62	-19	-9	19	11	55	57
<b>J317 - Labourers in food, beverage and tobacco processing **</b>											
Demand Projection	3,499	3,599	3,699	3,699	3,799	3,899	3,999	4,099	4,199	4,299	4,399
Supply Projection	3,889	3,958	4,020	3,988	4,016	4,075	4,135	4,233	4,254	4,322	4,369
Cumulative Shortage*	-189	-159	-121	-89	-17	24	64	66	145	177	230

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Occupational Projections	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>J319 - Other labourers in processing, manufacturing and utilities **</b>											
Demand Projection	1,800	1,800	1,900	1,900	1,900	2,000	2,099	2,099	2,099	2,199	2,199
Supply Projection	1,884	1,854	1,922	1,902	1,863	1,934	2,001	1,979	1,935	1,998	1,961
Cumulative Shortage*	-84	-54	-22	-2	36	65	99	121	164	201	238

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